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Suicide rates among different age groups and genders in Iraq at (2022-2023)

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Abstract
Complex linkages between mental health issues, psychological pain, and outside pressures including relationship or financial challenges frequently lead to suicide. Suicide is seen as a preventable public health issue, and effective prevention efforts require a knowledge of its underlying causes. Suicide rates vary across geographies, sex, and age category. High income countries prefer to report greater suicide rates compared to poor and lower-income states. Ideation, planning, and attempt are the three stages of suicidality, each of which is more severe than the previous one and is thought to develop causally from it. Hopelessness appears to act as a moderator in the link between suicide thoughts and sleep problems, anxiety, and bad social interactions. Young people and young adults, as well as those with and without diagnoses of psychiatric problems, are all subject to the same observations.

INTRODUCTION

Suicide is a major health problem, and the global suicide mortality rate amounts to 1.4% of all deaths worldwide [(1)]. Suicidal ideations are considerably more frequent than suicidal behaviors, can range from thoughts that life is not worth living to making concrete plans to end one's life. Most suicides are related to psychiatric disease, with depression, substance use disorders and psychosis being the most relevant risk factors. However, anxiety, personality, eating, and trauma-related disorders, as well as organic mental disorders, also contribute. other factors influence suicide ideation in adolescents, such as family problems, romance, psychological pressure, problems faced, lack of attention, problems at school and with friendship,

low self-esteem, social and economic pressure, bored life, despair, health, someone's death, fear of the future, and failure [2]. Many more men than women die by suicide, The male-to-female ratio varies between 4 to 1 (Europe and Americas) and 1.5 to 1 (Eastern Mediterranean and Western Pacific region), and is highest in richer countries. Suicide deaths may not be recognized or may be misclassified as an accident or another cause of death. Sometimes suicide is not acknowledged or reported, due to its sensitive nature and the taboo that still surrounds it[3]. Due to the severe consequences of suicidal behavior during adolescence, the identification of protective factors that could prevent this in a population should be a priority for public mental health policies. In relation to this, community agents, such as family and schools, have been shown to play a critical role in the prevention of suicidal behavior during adolescence. Firstly, regarding family, several studies have analyzed the effects of family function on mental health and suicidal behavior in adolescents. Family function has been defined as the interactions between—and reactions to—family members, and such interactions being dysfunctional has been related to mental health disturbances and higher rates of suicidal behavior during adolescence. In line with this, it has been demonstrated that adolescents who self-harm perceive significant impairments in family function [4]. Several mechanisms have been proposed to explain the relationship between family dysfunction and suicidal behavior in adolescents. A classical review of studies found that parental psychopathology, such as substance abuse, depression, or antisocial behavior are the most significant predictors of suicide in adolescents [5]. Probably poor parental monitoring, family disruption, or family discord could be the basis of the association between parent psychopathology and suicide. Hence, verbal abuse, low adaptability of the family, and low family support have demonstrated to be directly related to the risk of suicide. Furthermore, besides the possible psychopathology of parents, other characteristics of the family context, such as the lack of family cohesion, disconnection between family members, and disrupted communication, have also demonstrated to be significant predictors of suicide ideation during adolescence. As proposed by authors, it is probable that this type of family context promotes feelings of loneliness and abandonment in adolescents, increasing mood disturbances, and hence, suicidal behavior. Secondly, another of the most important factors directly related to mental health and suicidal behavior in adolescents is the school climate[6] .School climate can be defined as the quality of the interactions between students, teachers, parents, and school staff, reflecting the norms, values, and goals that represent the educational and social missions of the school. School and the relationships that adolescents establish in this context have been shown to be determinants of socioemotional development during adolescence, and hence, as would be expected, a negative school climate has been linked to higher levels of mental health problems and suicidal behavior in this population. In this regard, difficulties in peer interaction in the school context have demonstrated to be the most significant predictor, especially when adolescents exhibit feelings of disconnection and belongingness from the school and peers, and suffer from any harassment. Thus, bullied adolescents are twice as likely to develop suicidal behavior than their non-victimized counterparts [7]. A negative school climate characterized by the lack of cooperation between peers, difficulties in integration, and feelings of disconnection in the school context entails a significant risk factor for the development of suicidal behavior [8].

1.1 RISK FACTORS FOR SUICIDE.

Risk of suicide is influenced by the interaction of a variety of biological, clinical, psychological, social, cultural and environmental factors. One such example is the biopsychosocial model for suicide, which describes the interactions of genetic, experiential, psychological, clinical, sociological and environmental factors in the development of suicide risk. Although any number of these factors might be involved, their relative association with suicide risk varies greatly between individuals and can be mediated by a variety of factors, such as anxious or impulsive personality traits, and having social support and stable relationships, which lead to the etiological heterogeneity of suicide and suicidal behaviors. The relative importance of these diverse factors also varies by age and sex [9].

1.1.1 Mental Disorders.

Most studies agree that suicide is closely linked to mental disorders. About 90% of people who commit suicide have suffered from at least one mental disorder. Mental disorders are found to contribute between 47 and 74% of suicide risk. Affective disorder is the disorder most frequently found in this context. Criteria for depression were found in 50–65% of suicide cases, more often among females than males. Substance abuse, and more specifically alcohol misuse, is also strongly associated with suicide risk, especially in older adolescents and males. Among 30–40% of people who die by suicide had personality disorders, such as borderline or antisocial personality disorder. Finally, associations have also been found between suicide and anxiety disorders, but it is difficult to assess the influence of mood and substance abuse disorders that are also often present in these cases. In general, the comorbidity of mental disorders substantially increases suicide risk. Especially important here is the high prevalence of comorbidity between affective and substance abuse disorders [(10)].

1.1.2 Depression.

Depression also known to be the most common disorder among people who die by suicide is strongly related to both suicidal ideation and attempt, but it lacks specificity as a predictor, and little is known about the characteristics that increase the risk of suicide among people with depression [(11)].

1.1.3 Alcohol Use Disorder.

Drinking alcohol at an early age, binge or heavy drinking, and drinking behaviors that meet criteria for mild, moderate, or severe alcohol use disorder can all lead to increased suicidal ideation. Persons with heavy alcohol use are five times more likely to die by suicide than social drinkers. Older persons use alcohol as a palliative measure in response to pain, losses, and affective changes. This often leads to a damaging cycle of alcohol use to self-medicate symptoms of depression, worsening the situation. For this reason, alcohol use disorder has been reported to be the second most common psychiatric disorder associated with elderly suicide, second only to depression [(12).]

1.1.4 Personality and individual differences

Factors related to personality and individual differences are of interest because they are fairly stable in adulthood, often have known biological bases, are affected by the environment, and affect cognition and emotion [(13)].

1.1.4.1 Hopelessness

Hopelessness, defined as pessimism for the future, is a strong predictor of all indices of suicidal ideation and behaviors. In a classic study, Beck and colleagues were able to predict 91% of all suicides from hopelessness scores in a 10-year prospective study of patients admitted to hospital with suicidal ideation. although hopelessness is important in the development of suicidal ideation (consistent with theoretical models), other factors might be more useful in the prediction of actual suicide attempts or deaths [(14)].

1.1.4.2 Impulsivity

Suicide is associated with impulsivity. Although we know that a suicidal process can take weeks, months or even years, the fatal transition from suicidal ideation and suicide attempts to an actual completed suicide often occurs suddenly, unexpectedly and impulsively, especially among adolescents. Difficulties in managing the various, often strong and mixed emotions and mood fluctuations accompanying the confrontation with new and ever-changing challenges in different domains is another risk factor for youth suicide, probably partly influenced by bio-neurological factors. Young people who committed suicide were also found to have had poorer problem-solving skills than their peers. Their behavior was characterized by a rather passive attitude, waiting for someone else to solve the problem for them, for simple problems as well as for more complex interpersonal problems.

Impulsivity, although impulsivity has been studied for decades, its association with suicide risk is not as consistent or as straightforward as originally thought, and its effect might be less direct. The meaning of impulsivity is confused and needs resolution, with some studies operationalizing it as novelty-seeking

behaviors or having a short attention span. impulsivity should still be considered when risk of suicide or self-harm is assessed. It might not be important in all cases of suicide risk, but it is more likely to be evident in young people than in older people. Impulsivity can be useful to predict repeated suicide attempts in individuals with personality disorder. Impulsive aggression is associated with suicide attempts. Negative urgency, defined as the degree to which a person acts rashly when distressed, also needs further research [(15)].

1.1.4.3 Anxiety

Anxiety is likely to contribute to suicidal behaviour by interacting with other characteristics of individuals who already have an increased vulnerability to suicide.[16]

1.1.4.4 Perfectionism

perfectionism is associated with suicidal ideation and suicide attempts, although few prospective clinical studies have been done. Perfectionism can be defined in different ways and not all types are equally associated with suicide risk. One type, socially prescribed perfectionism (defined as the belief that other people [eg, family members] hold unrealistically high expectations of you), is most consistently associated with suicidal thoughts and attempts, especially when these socially determined beliefs are internalized as self-criticism. Recent research suggests that the social dimensions of perfectionism increase suicide risk by promoting a sense of social disconnection, which is consistent with the integrated motivational-volitional model and interpersonal theory of suicide. In particular, perfectionistic beliefs can also interact with other factors (eg, negative life events, adversity, and cognitions) to impede recovery from a suicidal episode or increase risk of suicidal ideation and self-harm further [(17)].

1.1.5 Opioid Use disorder

Opioid-related suicides have doubled in the last 15 years. This increase has paralleled the massive increase in drug overdose deaths, particularly those involving prescription opioids. The recent increase in drug overdose-related suicides highlights the importance of assessing suicide risk in patients receiving opioids [(18)].

1.1.6 Family Factors

One of the most important sources of support with addressing the many challenges of youth is the family context in which young people live or have grown up. Several risk factors concerning family structure and processes have been linked to suicide behavior in numerous studies. It is estimated that in 50% of youth suicide cases, family factors are involved. One important factor is a history of mental disorders among direct family members themselves, especially depression and substance abuse.[2] Family adversity, such as neglect or abuse, is a powerful independent antecedent of psychopathology and suicidal behavior. Suicidal youth are more attracted to death and less able to generate alternatives to suicide when faced with stress [(19)].

1.1.7 Cognitive factors

In an attempt to understand how and why some people's thought processes lead them to decide to end their lives, researchers have examined different cognitive processes that might be deficient or dysfunctional in suicidal people. Such research has identified several cognitive factors that seem to increase the risk of suicidal behavior, e.g.: Cognitive rigidity, Rumination, Thought suppression, Fearlessness about injury and death [(20)].

1.1.8 Specific Life Events-Traits

Risk factors directly linked to specific important life events can be of course very diverse, but some types of event stressors are found to be more often associated with suicide in youth than others. In the context of addressing new challenges, building their own identity and establishing self-confidence, most young people attach great importance to being part of peer groups, developing new intimate relationships, establishing confidence and security. Therefore, it is not very surprising that interpersonal losses such as relationship break-ups, the death of friends and peer rejection may have a great impact in youth, and are found in one fifth of youth suicide cases [(21)].

1.1.9 Negative life events.

1.1.9.1 Childhood adversities

Many studies have documented a strong association between the occurrence of adverse life events during childhood (eg, physical, sexual, and emotional abuse; family violence; and parental illness, divorce, or death) and the subsequent experience of suicidal behaviour. Many study findings showed a strong dose–response association between number of types of adversities and subsequent risk of suicide attempt. Sexual and physical abuse during childhood are especially strong risk factors for both the onset and persistence of suicidal behaviour, and the risk of suicidal behaviour is particularly high during childhood and adolescence, with the association between childhood adversities and suicidal behaviour decreasing with age[(22)].

1.1.9.2 Traumatic life events during adulthood.

The negative life events can affect wellbeing at any age, and traumatic events during adulthood (eg, physical or sexual abuse; death of a loved one; disasters or accidents; and exposure to war or other violence) can also increase the risk of subsequent suicidal behavior. Study findings have shown a dose–response relationship between the number of types of adversities and risk of subsequent suicidal behavior; again, physical and sexual abuse seem to convey the highest risk for both the onset and persistence of suicidal behaviors [(23)]

1.1.10 Socioeconomic, environmental and other contextual factors associated with suicide risk.

Important social and economic factors associated with suicide include proximal factors such as relationship breakdown, job loss, economic turmoil, being bullied and recent changes in socioeconomic position (having poor family connectedness, being single, having a low income and/or being in debt), as well as factors that may persist over time, such as poor social stability, stringent sociocultural norms. Some socioeconomic risk factors for suicide may operate differently in different social contexts; for example, the risk of suicide amongst individuals from minority ethnic groups is higher when they live in areas that have a low proportion of people from the same minority ethnic groups, compared with those living in areas that have a higher proportion of people from the same minority ethnic groups. Social isolation, for example resulting from anxiety, bereavement or social exclusion, is also a strong contributor to suicide risk, whether isolation is measured objectively (such as living alone) or through perceived loneliness. Conversely, clusters of suicide deaths may occur, particularly in young people, through social contagion, accounting for up to 1–2% of suicides in children and young people [(24)].

Aim of the study

To illustrate Suicide rates among different age groups and genders in Iraq in Two years (2022-2023)

Material & Methods

A. Study Design

The study relies on analyzing data collected from medical records as well as information received from the Iraqi Ministry of Health. The study was designed according to research principles that rely on an analytical methodology that combines descriptive analysis and statistical analysis to compare suicide rates according to age groups and gender. Duration of the study: The study was conducted from October 2024 to December 2024, which is a comprehensive period during which data related to suicide cases in the hospital were collected and analyzed.

Age groups: Age groups were defined as ranging from 12 years to 70 years. Age groups start from 12 years because suicide may be recorded among suicide attempts in adolescents. Age groups reach 70 years because there is a significant increase in suicide rates among the elderly, as many studies show that older people may suffer from depression or health problems that may lead to suicide.

Gender: Both genders were included in the study in order to study the effect of gender on suicide rates.

In many global studies, men are more likely to commit suicide while women attempt suicide more but at lower rates than men in fatal cases.

Number of cases: Data were collected from Iraqi Ministry of Health documented cases of suicide or suicide attempts during the study period. These cases were tracked in detail in medical records.

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B. Data Analysis:

A variety of tools and methods were used to collect the data needed to study suicide rate in Iraq to ensure the accuracy and comprehensiveness of the information

1. Medical Records

Medical records are the primary source of data, which contain detailed information about patients who have attempted suicide or who have been admitted to the hospital due to such incidents. These records include: Patient details: Age, gender, marital status (married, single, divorced), and occupation. Patient medical history, including any previous mental illnesses such as depression, anxiety, and other mental disorders.

Closed questions: were used to identify descriptive data (such as age, gender, method used in suicide).

2. Statistical software:

Total number of cases in each category was calculated and analyzed and comparative analysis was performed using Excel to generate charts to display the distribution of suicide cases by age and gender.

3.Results

3.1. Suicide rates in Iraq during 2022

In Iraq and during 2022, there was an increase in the number of suicides, as 511 suicide cases were recorded throughout Iraq, with 288 cases among men, while 223 cases among women. In different age groups, people aged between (15-29) numbered 192, which is the highest compared to other age groups. As for people aged between (30-44), 55 cases were recorded. While out of (14), 12 cases were recorded, and the number of people aged between (45-59) reached 28 cases. The least suicidal age group is people over 60 years old, as only 11 cases were recorded. These results are specific to men. As for women, the percentages were different and fewer in number. Whereas people between (2-1) recorded 149 cases, which is the highest percentage compared to other age groups, while between (44-30) 37 cases were recorded, while people between (5-4) reached 11 cases. The lowest percentage recorded during 2022 was for people over 60 years old, as only 3 cases were recorded, as shown in table 1.

Age	Male	Female
5-14	12	13
29-15	192	149
30-44	55	37
45-59	28	11
60	11	3

Table (1): Suicide rates among different age groups and genders in Iraq in 2022

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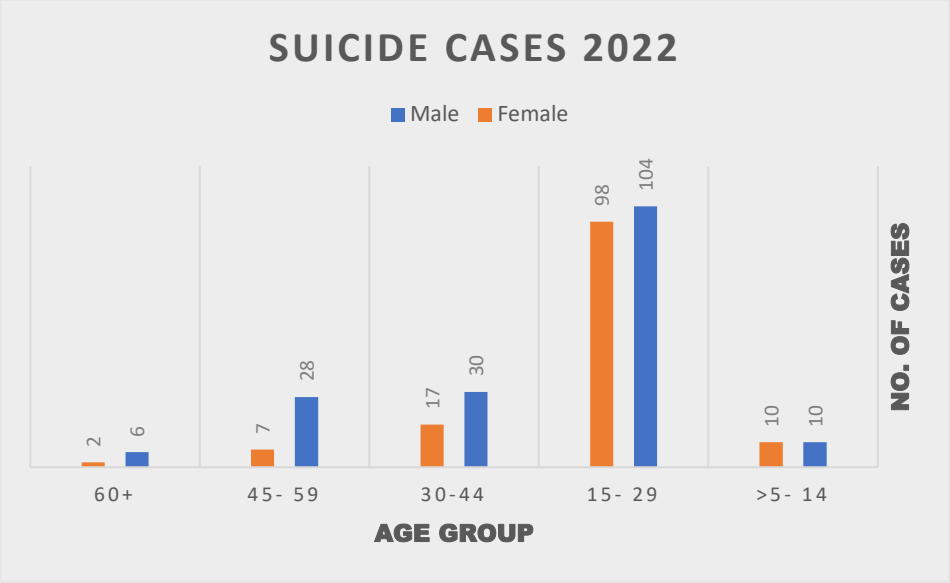

Figure (1): Suicide rates among different age groups and genders in Iraq in 2022

3.2. Suicide rates in Iraq during 2023

As for the year 2023, it witnessed a decrease in the number of suicide cases compared to last year, as the number of suicides in all of Iraq reached 352 suicide cases, 202 cases were recorded for men and 150 cases for women, with the highest rate of suicide among men among people aged between (29-15) years. 104 cases were recorded (30-44), 30 were recorded, while for the ages between (5-4) 28 cases were recorded, and for people between (14-5) 10 cases were recorded, and the lowest percentage was recorded in people over the age of 60, where only 6 cases were recorded. As for women, the highest suicide rate was recorded among people aged (15-29), with 98 cases, while people aged (30-44) recorded 17 cases, people aged (5-14) recorded 10 cases, and people aged (45-59) recorded 7 cases. As for the age groups with the least recorded suicide cases, they are people over 60 years old, with only two cases recorded. If we notice the results, we will find that the age group between (1-2) is the group most likely to commit suicide in both sexes, and the least group is people over 60 years old. Even when we compare with previous years, we will find that these two age groups have maintained their place in terms of majority and minority as shown in table 2.

Age	Male	Female
5-14	10	10
29-15	104	98
30-44	30	17
45-59	28	7
60	6	2

Table (2): Suicide rates among different age groups and genders in Iraq in 2023

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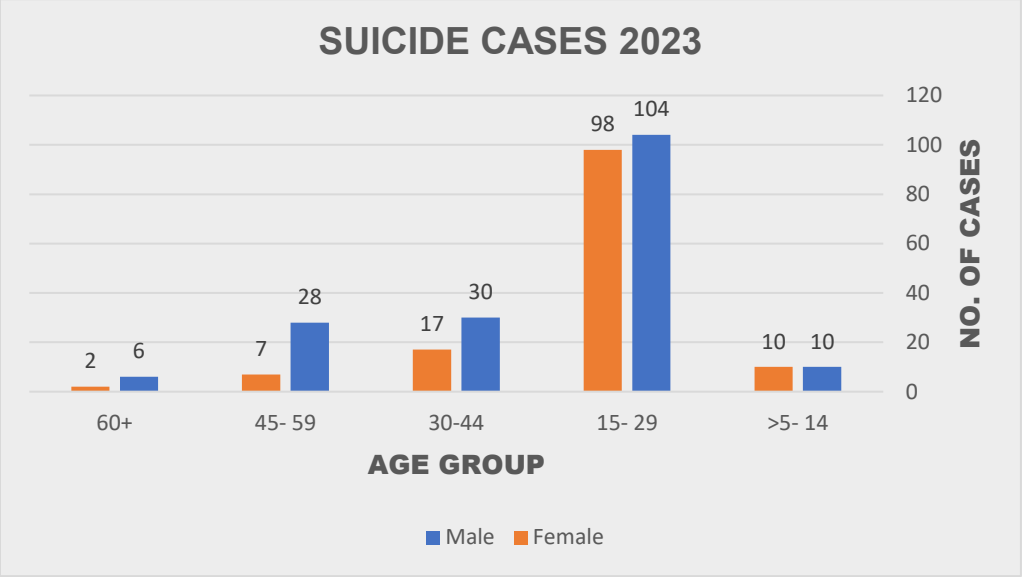

Figure (2): Suicide rates among different age groups and genders in Iraq in 2023

DISCUSSION

4.1. Analysis of Suicide Rates in Iraq in 2022 and Comparison with Previous Studies

The table provides an overview of suicide rates in Iraq in 2022, categorized by age groups and gender. Upon analysis, several key patterns emerge:

Age Group 5-14 Years:

• Suicide rates in this group are nearly equal between males (12) and females (13). This suggests that children in Iraq, regardless of gender, face significant psychological challenges, possibly stemming from domestic violence, neglect, or social and educational pressures. Studies have shown that children in conflict-affected regions are particularly vulnerable to mental health crises [25] (Patel et al., 2019).

Age Group 15-29 Years:

• This group exhibits the highest suicide rates, with 192 cases among males and 149 among females. This highlights the immense challenges faced by young people, including unemployment, economic instability, and societal pressures. According to WHO (2021), young adults in conflict-affected areas, such as Iraq, experience elevated rates of mental health disorders and suicide due to prolonged instability. Moreover, men are more likely to use lethal suicide methods, contributing to higher rates compared to women [26] (Carter et al., 2020).

Age Group 30-44 Years:

• Suicide rates decrease in this group, with 55 cases among males and 37 among females. This decline may reflect increased life stability, such as employment, marriage, or parental responsibilities, which may act as protective factors. However, men still show higher rates, consistent with global trends [27] (Nock et al., 2018).

Age Group 45-59 Years:

• In this age group, the rates drop further, with 28 cases among males and 11 among females. This decline could be attributed to improved coping mechanisms and a possible shift in societal roles that reduce stress

levels. Studies in similar socio-cultural settings have also observed reduced suicide rates among middle-aged individuals due to stronger family support networks (Patel et al., 2019).

Age Group 60+ Years:

• This group has the lowest suicide rates, with 11 cases among males and only 3 among females. The protective role of family bonds, respect for elders in Iraqi society, and reduced exposure to external pressures may explain the lower rates. Research by Patel et al. (2019) suggests that older adults in collectivist societies tend to have stronger familial and social ties, which act as buffers against mental health crises.

Comparison with Previous Studies

1. Regional Similarities:

• According to WHO (2021), suicide rates in the Middle East are highest among young adults (15-29 years), primarily due to economic, political, and social instability. The Iraqi data aligns with this observation, as young people are the most affected demographic.

2. Gender Disparities:

• Globally, males are more at risk of suicide than females, as supported by Carter et al. (2020), due to factors such as reluctance to seek help and the use of more lethal methods. The Iraqi data reflects a similar trend across all age groups.

3. The Role of Family and Social Bonds:

• Studies such as Patel et al. (2019) emphasize that older adults in collectivist societies benefit from strong family networks, which reduce the risk of suicide. This finding is consistent with the low suicide rates observed among the 60+ age group in Iraq.

4. Youth Vulnerability:

• Nock et al. (2018) highlight that adolescents and young adults are particularly vulnerable to mental health challenges in regions affected by conflict. This is mirrored in the high suicide rates for the 15-29 age group in Iraq, where societal pressures and limited resources exacerbate the situation.

4.2 Analysis of Suicide Rates in Iraq in 2023 and Comparison with Previous Studies

Age Groups and Gender:

• Age Group 5-14 Years: Suicide rates are equal for both males and females, with 10 cases each.
• Age Group 15-29 Years: This group shows the highest suicide rates, with 104 cases among males and 98 among females.
• Age Group 30-44 Years: A significant decrease in rates compared to the previous group, with 30 cases among males and 17 among females.
• Age Group 45-59 Years: Further decline in rates, with 28 male cases and 7 female cases.
• Age Group 60 and Above: The lowest rates recorded, with 6 cases among males and 2 among females.

This data suggests that suicide rates are highest among younger individuals (15-29 years), with males generally having higher rates across most age groups except the youngest (5-14 years).

Comparison with Previous Studies

Global Trends:

• A study by WHO (2021) indicates that globally, suicide rates are highest among young adults (15-29 years), especially in low- and middle-income countries. This aligns with the findings in Iraq, where this age group also shows the highest rates [(3)].

(Source: World Health Organization, 2021)

• Gender disparity is also consistent with global trends, as males generally exhibit higher suicide rates than females due to factors such as societal expectations, stigma around seeking mental health support, and use of more lethal methods [28].
(Source: Naghavi, 2019)

Regional Studies in the Middle East:

• A study in Iran by Moradi et al. (2019) found that young adults aged 15-29 also had the highest suicide rates, predominantly among males. This supports the Iraqi data and reflects a broader Middle Eastern pattern [29].
(Source: Moradi et al., 2019)

• In contrast, studies from some Gulf countries, such as Saudi Arabia, report lower rates among females, likely due to stricter societal and religious norms [30].
(Source: Al-Mosaed, 2020)

Previous Studies in Iraq:

• According to Al-Diwan et al. (2020), suicide rates in Iraq were also highest among young adults in their 20s. However, their study noted a sharper male-to-female disparity, with fewer female cases compared to the 2023 data. This might reflect changing societal dynamics or improved reporting mechanisms [31].
(Source: Al-Diwan et al., 2020)

CONCLUSION

To conclude, this study aimed to illustrate Suicide rates among different age groups and genders in Iraq. The research examined suicide rates in Iraq across different age groups and genders during 2022 and 2023, revealing that individuals aged 15–29 is the most vulnerable to suicide with differences in percentage between males and females. The main findings of the study that showing a strong correlation between suicide and psychological, social factors influencing individuals, including psychological pressures, family issues, and social isolation. These findings underscore the urgent need to address the root causes of suicide through comprehensive strategies that prioritize mental health, family support, and social and economic stability. These findings can also contribute to the development of preventive strategies targeting the most vulnerable groups, and enhance community efforts to support mental health.

RECOMMENDATIONS

suicide is one of the most important causes of death, we must reduce it through many recommendations for addressing suicide rates in Iraq : Improving mental health Through easy access to health services such as psychological counseling and psychotherapy. Increase Mental Health Awareness We can raise awareness among people about suicide by launching awareness campaigns in schools, universities, workplaces, as well as on social media about the importance of mental health and ways to prevent suicide. Strengthening support systems through family interventions to improve communication and cohesion among family members and through enhancing the role of schools in providing emotional, social and educational support to students. Implementing preventive systems by limiting access to means of suicide including weapons, harmful substances, etc. Strategies for suicide prevention can also be developed. Strengthening research and data collection by conducting more studies on suicide to understand suicide and its causative factors. Through these recommendations, we can cooperate to reduce the risk of suicide, enhance cooperation between individuals, and create an appropriate environment that supports mental and psychological health

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