



# Qualitative Exploration of Factors Contributing to Suicide: Perspectives of the Deceased's Family Members

Fathola Mohamadian  <sup>1</sup>, Yousef Fakour <sup>2</sup>, Walieh Menati <sup>3</sup>, Rostam Menati  <sup>3,\*</sup>

<sup>1</sup> Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, Iran

<sup>2</sup> National Institute for Medical Research Development, Tehran, Iran

<sup>3</sup> Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, Iran

\*Corresponding Author: Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, Iran. Email: rostammenati@yahoo.com

Received: 19 August, 2025; Revised: 8 October, 2025; Accepted: 11 October, 2025

## Abstract

**Background:** The aim of this study was to explore the perceived causes of suicide from the perspective of those closest to the deceased, providing insights for prevention efforts with a focus on the cultural context of Iran. Suicide remains a significant global public health concern with complex and multifaceted etiologies.

**Objectives:** Understanding the perceived causes of suicide from the perspective of those closest to the deceased can provide invaluable insights for prevention efforts, particularly within specific cultural contexts such as Iran.

**Methods:** This qualitative content analysis study analyzed in-depth interviews with 90 participants who were relatives of individuals who died by suicide in Ilam province, Iran, over a five-year period. Information regarding the 90 deceased individuals (mean age  $37.31 \pm 16.29$ ) was obtained through a review of forensic files and interview data from their relatives. Thematic analysis followed the framework of Graneheim and Lundman.

**Results:** The deceased individuals were predominantly male (53.68%), married (61.1%), and had low educational levels. Five main themes emerged: Family and marital conflicts, psychological problems, economic hardships, health and trauma factors, and social and legal stressors. Hanging (51.1%) and medication overdose (33.3%) were the most common methods.

**Conclusions:** Suicide is a multifactorial phenomenon influenced by a complex interplay of individual, familial, social, and economic factors. The results emphasize the importance of culturally sensitive prevention strategies in Iran, including mental health support, family counseling, addiction treatment, and socioeconomic assistance.

**Keywords:** Suicide, Qualitative Research, Family, Risk Factors, Iran

## 1. Background

Suicide is a complex and multifaceted public health issue that accounts for a significant proportion of premature mortality worldwide. According to the World Health Organization, over 700,000 people die by suicide annually, with many more engaging in non-fatal suicidal behaviors (1). In Iran, the suicide rate is estimated at approximately 4.3 per 100,000 population and has shown increasing trends in recent years, highlighting a pressing need for effective interventions (2, 3). Notably, Ilam province, with a suicide rate of about

20.7 per 100,000, is considered one of the regions with the highest suicide rates in the country (4).

Quantitative studies have traditionally dominated suicidology, focusing on statistical correlations and risk factors. While valuable, such approaches often fail to capture the nuanced, lived experiences of individuals and their families affected by suicide (5). Qualitative research methods, by contrast, provide rich, in-depth insights into the subjective meanings, motivations, and contextual dynamics surrounding suicidal behavior (6). These methods enable researchers to explore complex psychosocial phenomena that are difficult to quantify,

such as family conflicts, psychological distress, and social stigma, which have been identified as critical contributors to suicide risk (7).

In low- and middle-income countries (LMICs), where suicide rates are often high and mental health resources limited, qualitative studies are particularly important to uncover culturally specific factors and barriers to care (8). Moreover, given the stigma and legal implications surrounding suicide in many societies, understanding suicide through the perspectives of relatives of deceased individuals can shed light on the social and familial contexts that precipitate suicidal acts (9). Similarly, a recent study among Nigerian university students found that gambling disorder and emotional dysregulation significantly contributed to suicidal behavior, underscoring the multifactorial nature of suicide across cultures (10).

## 2. Objectives

This study aims to explore the perceived causes of suicide from the viewpoint of relatives of deceased individuals in Iran, using a qualitative content analysis approach. To enhance understanding, the study included interviews only with those closest relatives of the deceased. This approach seeks to deepen insight into the multifactorial nature of suicide, reflecting the complex social networks influencing suicidal behavior, and to provide culturally sensitive prevention strategies tailored to the Iranian context.

## 3. Methods

### 3.1. Study Design and Setting

This qualitative content analysis study utilized archival forensic interviews collected over five years with relatives of deceased individuals who completed suicide in Ilam province, western Iran – a region with elevated suicide rates compared to national averages. The study was conducted in 2025 using data from suicides that occurred between 2016 and 2021. Suicide files of 90 deceased individuals were reviewed to inform the context, but these cases are not considered as the study population or sample. Data were collected manually through face-to-face interviews and analyzed manually using the Graneheim and Lundman

qualitative content analysis framework. No qualitative data analysis software was employed.

### 3.2. Participants and Sampling

For each deceased individual, one relative was interviewed, resulting in a total of 90 participants who took part in the qualitative interviews. It should be noted that the study sample comprises these 90 interviewees, not the deceased individuals whose files were reviewed. Recruitment continued until data saturation was achieved – defined as the point at which no new themes or insights emerged from additional interviews. To ensure diversity and representativeness, participants were chosen based on predefined inclusion and exclusion criteria. Inclusion criteria required individuals to be first- or second-degree relatives of the deceased who had sufficient knowledge of the deceased's psychological, social, and personal history. Exclusion criteria eliminated individuals with limited or unclear information about the deceased or cases with incomplete records. Efforts were made to include participants from various socioeconomic backgrounds, age groups, and geographic regions to capture a wide range of perspectives. Saturation was determined through iterative analysis of interview data, ensuring a comprehensive and nuanced understanding of the perceived causes of suicide.

### 3.3. Data Collection

Data were gathered through face-to-face semi-structured interviews previously conducted by forensic medicine specialists with relatives of individuals who died by suicide in Ilam province. These interviews were originally performed for forensic and legal documentation purposes. Following ethical approval and informed consent, the interviews were analyzed for the current study. The interview guide consisted of open-ended and flexible questions addressing various aspects of suicidal behavior and protective factors. Topics included the history of suicidal thoughts and intentions, the nature of the suicide attempt, and factors that may have prevented earlier suicidal actions.

At the start of each interview, demographic and psychosocial information about the deceased was collected from relatives, including age, gender, marital status, education, occupation, location and time of

death, method of suicide, history of tobacco and substance use, previous illnesses and hospitalizations, psychiatric history, and type of mental disorder. Follow-up questions were asked based on participants' responses to deepen understanding and clarify contributing or protective factors. Interviews lasted approximately 30 to 45 minutes.

The interview guide was developed by the research team based on a literature review and designed to explore key factors that relatives perceived as contributing to or protecting against suicide. After transcription, interviews were analyzed using Graneheim and Lundman's qualitative content analysis framework (11), involving the identification of meaning units, coding, theme extraction, and categorization to explore psychosocial patterns in the narratives of the bereaved.

#### 3.4. Data Analysis

The collected interviews were transcribed verbatim and analyzed using qualitative content analysis according to the framework proposed by Graneheim and Lundman. This method involves several systematic steps: First, the interview transcripts were read multiple times to gain a comprehensive understanding of the data. Then, meaning units – words, sentences, or paragraphs related to the research questions – were identified and condensed without losing their core meaning. These condensed meaning units were labeled with codes, which were subsequently grouped into subcategories based on similarities and differences. Finally, the subcategories were abstracted into broader categories and themes that reflected the underlying psychosocial patterns and factors influencing suicide from the perspective of the deceased's relatives. Throughout the analysis process, efforts were made to maintain the credibility, dependability, and transferability of the findings by employing techniques such as peer review.

The coding process was performed manually by two researchers independently. Discrepancies in coding were resolved through discussion and consensus meetings. No software was used for data management; coding and theme development were conducted using manual methods such as printed transcripts and coded notes.

#### 3.5. Trustworthiness

To ensure the validity of the data in this study, the four criteria proposed by Lincoln and Guba – credibility, transferability, confirmability, and dependability – were applied (12). To establish credibility, peer debriefing was conducted. Experts in suicidology and sociology who were not part of the research team were invited to provide critical feedback. The research team committed to incorporating their insights into the final interpretations. To enhance transferability, purposive and heterogeneous sampling was employed, considering variables such as education level, method of suicide attempt, age, and marital status. Dependability was ensured through peer review and the use of an audit trail, which allowed transparency in decision-making throughout the data analysis process. To reinforce confirmability, the research team – comprising professionals in psychology, psychiatry, and sociology – jointly reviewed, refined, and validated all coded data. They collaboratively defined the conceptual categories to ensure an objective and systematic analysis.

#### 3.6. Ethical Aspect of the Study

Confidentiality of participants' information was strictly maintained. This study received ethical approval from the Research Ethics Committee of Ilam University of Medical Sciences under the official approval code IR.MEDILAM.REC.1404.041.

### 4. Results

The sample consisted of 90 deceased individuals, with a mean  $\pm$  SD age of  $37.31 \pm 16.29$  years. Males accounted for 53.68% of the deceased cases. Most of the deceased had low educational levels, with 65.26% being illiterate or having education below diploma level. The majority were married (61.1%) and engaged in self-employment (38.9%) or homemaking (33.68%). Deaths predominantly occurred in hospitals (44.21%) or at home (40.0%). Suicides most frequently took place in the morning (29.47%), although the time of death was unreported in 38.95% of cases. Hanging was the most common method (51.1%), followed by medication overdose (33.3%) and self-immolation (11.1%, Table 1).

**Table 1.** Demographic Characteristics and Suicide-Related Factors of Deceased Individuals (N = 90)<sup>a</sup>

Variables	Values
Age (mean $\pm$ SD)	37.31 $\pm$ 16.29
Gender	
Female	44 (46.32)
Male	46 (53.68)
Education	
Illiterate	31 (32.63)
Below diploma	31 (32.63)
Diploma	25 (26.32)
University	8 (8.42)
Occupation	
Unemployed	10 (10.53)
Student (school)	4 (4.21)
Student (university)	4 (4.21)
Homemaker	32 (33.68)
Self-employed	35 (38.89)
Marital status	
Married	58 (61.11)
Single	33 (34.74)
Divorced	4 (4.44)
Place of death	
Home	38 (40.00)
Public places	9 (9.47)
Hospital	42 (44.21)
Mountain	6 (6.32)
Time of suicide	
Morning	28 (29.47)
Afternoon	20 (21.05)
Night	10 (10.53)
Not reported	37 (38.95)
Method of suicide	
Self-immolation	10 (11.11)
Hanging	46 (51.11)
Medication overdose	30 (33.33)
Jumping from height	4 (4.44)
Poisoning	4 (4.44)
Other	8 (8.89)

<sup>a</sup> Values are expressed as No. (%) unless indicated.

Thematic analysis yielded five main themes and their corresponding sub-themes, supported by illustrative quotes from interviews with the relatives of the deceased. A total of 95 initial codes were extracted during the coding process, which were clustered into these main themes.

#### 4.1. Family and Marital Conflicts

Many relatives emphasized ongoing disputes with spouses or extended family members as critical factors. For example, one interviewee reported that the deceased was imprisoned due to inability to pay dowry amid marital conflict (Interview 1): "He had frequent disputes with his wife and could not afford the dowry." Others described frequent quarrels with in-laws or spouses (Interviews 4, 12, 27, 33), with one stating, "She was constantly arguing with her in-laws."

#### 4.2. Psychological Problems

Depression and mental illness were commonly reported causes. Several relatives described the deceased as suffering from severe depression and anxiety (Interviews 7, 9, 50, 66). As one relative shared, "She felt hopeless and depressed all the time." Substance abuse, particularly addiction to drugs or alcohol, was also cited as exacerbating distress and contributing to suicide (Interviews 16, 29, 69), with a participant noting, "He was addicted and felt there was no way out."

#### 4.3. Economic Hardships

Financial difficulties such as debt, unemployment, and inability to afford necessary expenses were frequently mentioned. For instance, one participant shared that the deceased could not afford car repairs, which led to despair (Interview 10): "He couldn't afford the car repairs and felt desperate." Economic strain was often intertwined with familial stress.

#### 4.4. Health and Trauma Factors

This theme includes chronic illnesses such as cancer, diabetes, and chronic pain that affect quality of life, as well as traumatic experiences including the death of loved ones, abuse, and social isolation. These factors were identified as significant burdens increasing suicide risk (Interviews 6, 11, 17, 23, 43). One relative reported, "He was suffering from stomach cancer and lost hope," while another said, "After her son's death, she couldn't cope and felt lonely."

#### 4.5. Social and Legal Factors

Experiences of imprisonment, job loss, and social stigma were reported as major stressors contributing to suicide risk. One relative described how arrest and shame contributed to the deceased's suicide (Interviews

1, 19, 34): "He was arrested and couldn't bear the shame." (Table 2)

**Table 2.** Thematic Analysis of Perceived Causes of Suicide from the Perspective of Relatives of Deceased Individuals (N = 90)

Main and Sub-themes	Definitions
<b>Family and marital conflicts</b>	
Marital disputes	Conflicts and disagreements with spouse or family
Family conflicts	Broader familial disagreements and quarrels
<b>Psychological problems</b>	
Depression and mental illness	Feelings of sadness, anxiety, and diagnosed disorders
Substance abuse	Use of drugs or alcohol contributing to distress
<b>Economic hardships</b>	
Financial difficulties	Debt, unemployment, and economic pressures
<b>Health and trauma factors</b>	
Chronic illness	Cancer, diabetes, chronic pain affecting quality of life
Traumatic experiences	Death of loved ones, abuse, social isolation
<b>Social and legal factors</b>	
Imprisonment, job loss	Social pressures including incarceration or unemployment

## 5. Discussion

This study affirms the multifactorial nature of suicide, with five major thematic categories emerging: (1) Family and marital conflicts, (2) psychological problems, (3) economic hardships, (4) health and trauma factors, and (5) social and legal factors. These findings align with the qualitative perspectives obtained from relatives of the deceased and are consistent with regional and international suicidology literature (10-13).

The integration of psychological and social factors emphasizes the need for comprehensive and culturally adapted prevention measures in Iran. Family disputes – particularly those involving dowry and marital strain – emerged as culturally salient stressors. These findings echo prior Iranian studies but add depth by highlighting how entrenched social expectations and unresolved domestic tensions contribute to suicidal behavior. Similarly, the study from Kermanshah on self-immolation among young women underscores the emotional toll of marital conflict and the urgent need for mental health education and problem-solving skills (13).

Consistent with prior Iranian studies, family and marital conflicts emerged as prominent factors contributing to suicide. Previous research has

highlighted the role of familial dysfunction, marital discord, and cultural pressures in precipitating suicidal behavior among Iranian populations (14). Our findings indicate that disputes over dowry and frequent quarrels with spouses or in-laws are significant stressors that resonate with these cultural and social dynamics. Similarly, research from other contexts underscores the universal impact of family conflict on suicide risk (15).

Psychological problems, particularly depression and mental illness, were frequently reported by relatives as underlying causes. This is in line with global evidence identifying depression as a leading risk factor for suicide (16). The added dimension of substance abuse as a compounding factor also reflects findings from international meta-analyses indicating that addiction significantly increases suicidal ideation and attempts (17). The high prevalence of psychological distress in our sample underscores the urgent need for accessible mental health services.

Economic hardship was another prominent theme, with participants describing despair over unemployment, debt, and inability to meet basic needs. These narratives illustrate how financial instability can erode coping mechanisms and intensify suicidal ideation, reinforcing findings from both Iranian and international contexts (18-21).

Health-related burdens, including chronic illnesses like cancer and diabetes, were closely tied to feelings of hopelessness. By merging physical illness and trauma into a unified "Health and Trauma Factors" theme, this study offers a more integrated understanding of how long-term suffering and loss – such as bereavement or abuse – can precipitate suicide. This aligns with research demonstrating that chronic health problems diminish quality of life and elevate suicide risk (14, 22, 23). The intersection of physical and mental health challenges calls for integrated care approaches.

Social stigma surrounding imprisonment and job loss further isolates individuals, exacerbating their vulnerability (24, 25). Our findings support the need for reintegration programs and stigma reduction initiatives, especially in rural and conservative communities.

It is important to note that while the qualitative data derives from interviews with 90 relatives of individuals who died by suicide, the demographic and

epidemiological characteristics described throughout this manuscript correspond to the 90 deceased individuals themselves. This distinction ensures accuracy in reporting and interpretation of results. Furthermore, the data analyzed covers suicide cases that occurred between 2016 and 2021; however, the study was conducted and the manuscript prepared in 2025, reflecting a retrospective analysis of these cases. A clear understanding of these temporal and sample distinctions enhances the validity and contextual relevance of the findings.

Overall, this study's qualitative approach provides a rich, contextualized understanding of suicide causes as perceived by those closest to the deceased, complementing quantitative epidemiological data. The convergence of individual, familial, social, and economic factors underscores the multifaceted nature of suicide and the necessity for comprehensive prevention strategies tailored to cultural contexts. Additionally, a review of school-based non-suicidal self-injury (NSSI) studies highlights the need for multidimensional mental health strategies, especially for adolescents (26).

To reduce suicide risk in vulnerable regions like Ilam, Iran, a set of culturally sensitive and community-based strategies is recommended. These include mobile mental health services, tailored family counseling for young married women, school-based emotional resilience programs for adolescents, integrated substance abuse and suicide prevention centers, public campaigns to reduce stigma around legal and mental health issues, and financial aid with vocational training for economically strained families.

This study contributes to the growing body of knowledge on suicide in Iran and offers evidence-based directions for policymakers, clinicians, and community stakeholders aiming to reduce suicide mortality and improve mental health outcomes.

### 5.1. Conclusions

By capturing the lived experiences of those closest to suicide victims, this study offers a nuanced, culturally grounded understanding of suicide in Iran. The findings highlight the multifactorial nature of suicide and emphasize the need for prevention strategies tailored to the cultural and social context of the country.

Suggestions for prevention include enhancing mental health support services, providing family counseling to address marital and familial conflicts, implementing addiction treatment programs, and offering socioeconomic assistance to alleviate financial hardships. Policymakers and community leaders should also focus on reducing social stigma, improving access to healthcare for chronic illnesses, and developing targeted interventions for at-risk populations to effectively reduce suicide mortality and strengthen mental health resilience in Iran.

### 5.2. Limitations

This study has several limitations that should be considered when interpreting the findings. First, data were collected solely from the perspectives of relatives of deceased individuals, which may be influenced by emotional bias and may not fully capture all dimensions of the causes of suicide. Second, the qualitative nature and relatively small sample size may limit the identification of all relevant factors, including culturally specific aspects. Additionally, incomplete or missing information in some cases may have affected the depth of analysis. Due to the retrospective nature of the study, some personal information of the interviewees was incomplete and could not be retrieved. Finally, the findings may have limited generalizability beyond the specific cultural and social context of the study population. Future research with larger, more diverse samples and mixed-method approaches is recommended to provide a more comprehensive understanding of suicide causes.

### Footnotes

**Authors' Contribution:** R. M. was responsible for conceptualization, methodology, formal analysis, and writing the original draft. F. M., W. M., and Y. F. participated in the investigation. R. M., F. M., W. M., and Y. F. contributed to manuscript revisions. R. M. and F. M. supervised the research and provided critical review.

**Conflict of Interests Statement:** The authors declare no conflict of interest.

**Data Availability:** The datasets generated and analyzed during the current study are available from the

corresponding author upon reasonable request.

**Ethical Approval:** This study was approved by the Research Ethics Committee of Ilam University of Medical Sciences (IR.MEDILAM.REC.1404.041).

**Funding/Support:** This study was supported by the Psychosocial Injuries Research Center.

**Informed Consent:** Written informed consent was obtained from all participants.

## References

1. World Health Organization. *Suicide worldwide in 2021: global health estimates. Mental Health, Brain Health and Substance Use*. Geneva, Switzerland: World Health Organization; 2025.
2. Bahram Nejad A, Behzadi A, Ostad Ahmadi Z, Barouni M. Determining the Burden of Suicidal Behaviors Using the DALY Approach: A Case Study in Iran (2018-2021). *Addict Health*. 2023;15(3):185-91. [PubMed ID: 38026727]. [PubMed Central ID: PMC10658101]. <https://doi.org/10.34172/ahj.2023.1421>.
3. Bakhtiari A, Mostafavi H, Mohamadi E, Yaftian F, Kargar S, Ahmady Tabatabaei SV, et al. Identifying knowledge gaps in social determinants of health and related challenges in Iran; 2023. *Health Res Policy Syst*. 2025;23(1):63. [PubMed ID: 40405207]. [PubMed Central ID: PMC12096498]. <https://doi.org/10.1186/s12961-025-01300-4>.
4. Sayehmiri K, Ashraf Mozafari A, Valizadeh R, Yadeghari N, Rostamkhani M, Khorshidi A, et al. Rate and Causes of Suicide in Ilam: A Report of the Suicide Registry. *Iran J Psychiatry*. 2022;17(3):312-9. [PubMed ID: 36474690]. [PubMed Central ID: PMC9699812]. <https://doi.org/10.18502/ijps.v17i3.9732>.
5. Krysinska K, Ozols I, Fraser T, Banfield M, Hawgood J, Kolves K, et al. 'Wisdom Is Knowledge Plus Experience': Qualitative Study of Lived Experience and Researcher Perspectives on Suicide Research Co-Production. *Int J Ment Health Nurs*. 2025;34(1): e13507. [PubMed ID: 39835333]. [PubMed Central ID: PMC11747945]. <https://doi.org/10.1111/inmn.13507>.
6. Jennings M. *A qualitative study on the effects of a student suicide on the experienced teacher in secondary and adult education [dissertation]*. Maynooth, Ireland: National University of Ireland; 2016.
7. Mathew A, Saradamma R, Krishnapillai V, Muthubeevi SB. Exploring the Family factors associated with Suicide Attempts among Adolescents and Young Adults: A Qualitative Study. *Indian J Psychol Med*. 2021;43(2):ii3-8. [PubMed ID: 34376885]. [PubMed Central ID: PMC8313455]. <https://doi.org/10.1177/0253717620957113>.
8. Kabir H, Wayland S, Maple M. Qualitative research in suicidology: a systematic review of the literature of low-and middle-income countries. *BMC Public Health*. 2023;23(1):918. [PubMed ID: 37208634]. [PubMed Central ID: PMC10199541]. <https://doi.org/10.1186/s12889-023-15767-9>.
9. Canbolat F. *A qualitative research on suicide notes: mental representations in suicide notes of men [thesis]*. Ankara, Turkey: Middle East Technical University; 2018.
10. Akpunne BC, Akinnawo EO, Akpunne SI, Kumuyi DO. Suicidal Behaviour Among Nigerian Undergraduates: Associations with Gambling Disorder and Emotional Dysregulation. *Health Scope*. 2022;11(2). <https://doi.org/10.5812/jhealthscope-121797>.
11. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24(2):105-12. [PubMed ID: 14769454]. <https://doi.org/10.1016/j.nedt.2003.10.001>.
12. Lincoln YS, Guba EG, Pilotta JJ. Naturalistic inquiry. *Int J Intercult Relat*. 1985;9(4):438-9. [https://doi.org/10.1016/0147-1767\(85\)90062-8](https://doi.org/10.1016/0147-1767(85)90062-8).
13. Fazeli S, Karami Matin R, Kakaei N, Pourghorban S, Amini Moghadam M, Safari Faramani S, et al. Self-Inflicted Burn Injuries in Kermanshah: A Public Health Problem. *Health Scope*. 2014;3(3): e17780. <https://doi.org/10.17795/jhealthscope-17780>.
14. Pitman A, Osborn D, King M, Erlangsen A. Effects of suicide bereavement on mental health and suicide risk. *Lancet Psychiatr*. 2014;1(1):86-94. [PubMed ID: 26360405]. [https://doi.org/10.1016/S2215-0366\(14\)70224-X](https://doi.org/10.1016/S2215-0366(14)70224-X).
15. Stack S. Suicide: a 15-year review of the sociological literature. Part I: cultural and economic factors. *Suicide Life Threat Behav*. 2000;30(2):145-62. [PubMed ID: 10888055].
16. Pompili M, Erbuto D, Innamorati M, Luciano M, Sampogna G, Abbate-Daga G, et al. The Relationship Between Mental Pain, Suicide Risk, and Childhood Traumatic Experiences: Results From a Multicenter Study. *J Clin Psychiatry*. 2022;83(4):41432. [PubMed ID: 35704708]. <https://doi.org/10.4088/JCP.21m14176>.
17. Athey A, Shaff J, Kahn G, Blair K, Ryan T, Sawyer H, et al. Association of Substance Misuse and Suicide Mortality a Systematic Review and Meta-Analysis. *Lancet*. 2023;Preprint:22. <https://doi.org/10.2139/ssrn.4617147>.
18. Lee DW, Hong YC, Yun JY, Nam SH, Lee N. Economic growth and suicide rates: Differential accumulated effects. *PLoS One*. 2025;20(7): e0327630. [PubMed ID: 40623024]. [PubMed Central ID: PMC12233259]. <https://doi.org/10.1371/journal.pone.0327630>.
19. Emamgholipour S, Arab M, Shirani R. Socioeconomic Determinants of Suicide in Iran: Panel Data Study. *Iran J Public Health*. 2021;50(11):2309-16. [PubMed ID: 35223606]. [PubMed Central ID: PMC8826324]. <https://doi.org/10.18502/ijph.v50i11.7587>.
20. Barth A, Sogner I, Gnamb T, Kundi M, Reiner A, Winkler R. Socioeconomic factors and suicide: an analysis of 18 industrialized countries for the years 1983 through 2007. *J Occup Environ Med*. 2011;53(3):313-7. [PubMed ID: 21346629]. <https://doi.org/10.1097/JOM.0b013e31820d161c>.
21. Meda N, Miola A, Slongo I, Zordan MA, Sambataro F. The impact of macroeconomic factors on suicide in 175 countries over 27 years. *Suicide Life Threat Behav*. 2022;52(1):49-58. [PubMed ID: 34032310]. [PubMed Central ID: PMC9292781]. <https://doi.org/10.1111/sltb.12773>.
22. Huh Y, Kim SM, Lee JH, Nam GE. Associations between the type and number of chronic diseases and suicidal thoughts among Korean adults. *Psychiatry Res*. 2021;296:113694. [PubMed ID: 33418459]. <https://doi.org/10.1016/j.psychres.2020.113694>.
23. Scott KM, Lim C, Al-Hamzawi A, Alonso J, Bruffaerts R, Caldas-de-Almeida JM, et al. Association of Mental Disorders With Subsequent Chronic Physical Conditions: World Mental Health Surveys From 17 Countries. *JAMA Psychiatr*. 2016;73(2):150-8. [PubMed ID: 26719969]. [PubMed Central ID: PMC5333921]. <https://doi.org/10.1001/jamapsychiatry.2015.2688>.

24. Milner A, Page A, LaMontagne AD. Long-term unemployment and suicide: a systematic review and meta-analysis. *PLoS One*. 2013;8(1). e51333. [PubMed ID: 23341881]. [PubMed Central ID: PMC3547020]. <https://doi.org/10.1371/journal.pone.0051333>.
25. Bantjes J, Lemmi V, Coast E, Channer K, Leone T, McDaid D, et al. Poverty and suicide research in low- and middle-income countries: systematic mapping of literature published in English and a proposed research agenda. *Glob Ment Health*. 2016;3. e32. [PubMed ID: 28596900]. [PubMed Central ID: PMC5454768]. <https://doi.org/10.1017/gmh.2016.27>.
26. Soleimani M, Akbari Zardkhaneh S, Poursharifi H, Mansourkiaie N. Systematic Review of School-based Preventive Interventions on Non-suicidal Self-injury: A Call for Advancements. *Health Scope*. 2025;14(3). <https://doi.org/10.5812/healthscope-154084>.