SYSTEMATIC REVIEW

Non-suicidal self-injurious behavior among the Saudi population: a systematic review [version 1; peer review: 1 not approved]

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Abstract

Background: Self-harm is a serious public health problem across the world, impacting not only people who self-harm but also their families and society as a whole through higher resource costs and productivity losses. This review was conducted among the general Saudi population to investigate the prevalence of non-suicidal self-injury (NSSI) and factors affecting it.

Methods: An electronic literature search of four major databases, PubMed, Web of Science, Scopus Science Direct, and Google Scholar, was conducted to include eligible studies. All studies reporting NSSI or relevant to the subject were included.

Results: A total of five articles with 1758 participants were included. The lowest recorded NSSI prevalence was 0.47% while the highest was 10.2%, both in Al-Khobar city.

Conclusion: We recorded a relatively low but increasing prevalence of NSSI. The review also demonstrated that NSSI was more common among the female population and young people. Self-poisoning, including drug overdose, was the most prevalent method of self-harm. Interpersonal difficulties, marital problems, academic failure, and family and self-conflicts were common motivating factors of NSSI.

Keywords

Self-harm; NSSI; DSH; Overview

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Any reports and responses or comments on the article can be found at the end of the article.

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Introduction

Non-suicidal self-injury (NSSI) behavior is becoming more of a clinical and public health issue. NSSI is defined as the intentional and direct destruction of one's biological tissue in the absence of deadly intent and for non-socially sanctioned causes.^{1,2}

The prevalence of NSSI, such as self-cutting, poisoning, drug overdose, self-immersing or burning, among children and adolescents is less obvious due to the lack of NSSI evaluations in most large epidemiological research.¹ However, preliminary research findings indicate that adolescent participation in NSSI is increasing.^{3,4} According to research, those who engage in NSSI have a high prevalence of suicide attempts, exposing them to a greater chance of committing suicide. Because the general public is becoming more aware of self-injurious behavior among teenagers, research into the epidemiology, phenomenology, and management of NSSI is expanding. However, as this assessment will demonstrate, there is still a significant amount of work to be done.⁵⁻⁷

There has been a lack of widely accepted terminology. Over the years, self-injurious behaviors have been defined in many different terms: syndrome of delicate self-cutting, self-wounding, self-mutilation and deliberate self-harm.^{8,9}

Self-harm has long been related to other conditions, such as post-traumatic stress disorder, depressive disorders, obsessive-compulsive disorder, anxiety disorder, borderline personality disorder, and eating disorders.¹⁰⁻¹³ Earlier estimates varied from 40% to 82% among teenagers in psychiatric inpatient settings, with 4% of the general population having a history of NSSI. Recent studies estimate the prevalence of NSSI to be approximately 10% among general population worldwide.^{14,15}

Researchers discovered that self-harming behavior is becoming increasingly common especially among female adolescents and young adults.^{16,17} The first attempt to identify this tendency may be found in Menninger's book "Man against himself," in which the author defines self-injurious behavior as a type of "partial suicide".¹⁸

Daradkeh investigated the impact of national and religious events on the rate of parasuicide in Jordan and discovered that significantly fewer parasuicides were reported during Ramadan than in the preceding and following months.¹⁹ Self-inflicted kerosene burning is a widespread, historic, and theatrical method of female suicide attempt in Jordan.²⁰

In Saudi Arabia, self-harm is mostly committed by young girls, and the most common method is deliberate self-poisoning with analgesics and psychoactive substances.²¹

Reducing the risk of suicide after self-harm must be a crucial component in national suicide prevention programs. Much as restricting the supply of pharmaceuticals is beneficial in lowering suicide rates in the past.²² In order to develop context-specific preventative strategies, information on risk categories and precipitating factors is required.²³

Our research aims to provide an up-to-date and reliable evidence synthesis by defining the characteristics (rates and risk factors) of NSSI among the general population in Saudi Arabia.

Methods

This review was implemented and reported following established guidelines for systematic reviews (Preferred Reporting Items for Systematic Reviews and Meta-Analyses, PRISMA).

Information sources and search strategy

A comprehensive research was done to overview current available primary literature on NSSI and deliberate self-harm (DSH) observed among the general population in Saudi Arabia. A literature search was conducted using four major databases to identify relevant and eligible study articles: PubMed, Web of Science, Scopus, Science Direct, and Google Scholar. Our search was restricted to the English language and was adjusted to each database as necessary.

The following keywords were used to identify the eligible study articles that adjusted into Mesh terms in PubMed or subject terms as in Scopus: "Self-injury," "non-suicidal self-injurious behavior," "NSSI," "Parasuicide," "Self-harm," "deliberate self-harm," "DSH," and "Saudi Arabia." The relevant keywords were combined with Boolean operators like "OR" and "AND." No filters or limits were applied.

Eligibility criteria

Full-text publications, freely accessible articles and human trials were eligible for inclusion over all dates the databases existed for. The search was conducted between August and September 2021. Our overview included the studies with the

following criteria: 1) Articles reporting cases diagnosed with NSSI or DSH; 2) Including subjects in Saudi Arabia; 3) English language publications; 4) Any age group. Any study that did not meet our criteria were excluded.

Selection process and data collection

Rayyan (QCRI)²⁴ was used to identify duplicates of the search strategy outcomes. Both authors screened titles and abstracts for convenience by investigating the search results using the eligibility criteria. The reviewers evaluated the full text of the papers that met the inclusion criteria. They overcame any conflicts by debate and discussion.

A data extraction form was established to include the eligible research. The authors extracted information about the study titles, authors, study year, study design, study population, participant number, participant age (age range and mean age), and gender, the prevalence of NSSI or DSH, the associated factors representing the risk of self-harm incidence, follow-up duration, and the most frequent method of harm.

Summary tables comprising the collected details from the eligible studies were presented to generate a qualitative overview of the included research features and outcome data by two independent reviewers and differences between reviewers were resolved by discussion. The extent of the recommended pooled analyses was examined once the data processing was assessed. After data was extracted from the included studies, authors decided how to best utilize and analyze it to serve the purpose of the study.

Figure 1. PRISMA flow chart presenting the study selection results.

Table 1. Characteristics of the included studies. NSSI: non-suicidal self-injury; DSH, deliberate self-harm; NR: not recorded.

Study	Study design	City	Total participants	Mean age	Prevalence of NSSI or DSH (%)	Follow-up	Prevalent method of harm	Motivation for self-harm
Mahgoub et al., ²⁵ 1988	Retrospective	Al-Khobar	40	20.65 ± 5.18	0.47%	4 years	Drug overdose	Interpersonal problems; followed by marital then personal problems
Daradkeh et al., ²⁶ 1985	Retrospective and prospective	Al Hasa	30	23.4	20.7 per 100,000	1 year	Non-opiate analgesics	Marital conflicts, conflicts with parents, and academic failure
Daradkeh et al., ²⁶ 1986	Retrospective and prospective	Al Hasa	33	24	20.7 per 100,001	1 year	Non-opiate analgesics	Marital conflicts, conflicts with parents, and academic failure.
Al Habeeb et al., ²⁷ 2013	Cross-sectional	Riyadh	557	39 ± 11.7	7.7%	1 year	NR	Physical comorbidity and self-conflicts
Al-Sharqi et al., ²⁸ 2012	Cross-sectional	Riyadh, Dammam, Al-Amal, and Jeddah	736	32.3 ± 9.2	6.9%	NR	NR	Socioclinical variables
AbuMadini et al., ²⁹ 2001	Prospective	Al-Khobar	362	26.3 ± 9.5	10.2%	6 Years	Self-poisoning by overdose followed by self-cutting	Nearly half of the participants had family conflicts followed by self and personal conflicts

Results

Search results

A total of 301 study articles resulted from the initial systematic search. Rayyan (QCRI) identified and removed 45 duplicates from these results. Following the title and abstract screening, 162 studies were removed either due to irrelevant findings, inappropriate research type, or design, followed by the full-text assessment and removal of an additional 89 studies due to irrelevant analysis or wrong outcome. This eventually resulted in a total of 5 eligible studies. The selection process and identification are presented in [Figure 1](#).

Characteristics of the included studies

[Table 1](#) includes the characteristics of the five included studies.

Of the five included studies, one was retrospective,²⁵ one retrospective and prospective,²⁶ two studies were cross-sectional,^{27,28} and one prospective.²⁹ In total, there were 1758 participants and five different cities in Saudi Arabia were included.

Mahgoub *et al.*²⁵ conducted a retrospective study on 40 subjects with a four year follow-up period and recorded the lowest NSSI prevalence with a percentage of 0.47%. They reported that the majority of subjects were single and under the age of 30 (95%), with the majority under the age of 20 (52.5%); the female to male ratio was 4:1. Interpersonal difficulties that resulted in quarrels caused the conduct in more than two-thirds (72.5%) of the incidents. Eighty percent of the cases involved drug overdose. Almost equally, psychotropic, analgesic, and other medications were used. The most common diagnosis was reactive depression (60%). Among the recommended preventive measures were limited analgesic sales, the disposal of unwanted drugs, and the discrete prescription of psychotropics, particularly to young women.

Daradkeh *et al.*²⁶ conducted a study prospectively and retrospectively for two years on 63 participants and reported that NSSI was prevalent in 20.7 per 100,000. They reported that young women primarily were affected and that dysfunctional interpersonal connections with spouses and parents serve as triggering factors. The most common diagnosis was acute stress reaction, followed by depression. The most common approach was deliberate self-poisoning with analgesics and psychoactive medications. The findings of this study disagree with the concept that parasuicide is uncommon in this region of the world.

Al Habeeb *et al.*²⁷ conducted a cross-sectional study on 557 patients diagnosed with depression with one-year follow-up and reported an NSSI prevalence of 7.7%. This hospital-based study gave a wide picture of the prevalence of suicide and non-suicidal self-injurious behaviors, as well as specific risk and protective factors, in patients with depression. Male gender, type of joint family, literate education, employment status, smoking, and physical comorbidities were all substantially linked with all types of suicidal behavior.

Al-Sharqi *et al.*²⁸ conducted a cross-sectional study on 736 patients diagnosed with alcohol or drug abuse and an NSSI prevalence of 6.9%. Their preliminary findings suggest that socioclinical variables correspond to suicide ideation, suicidal and self-injurious behavior, and protection from risky behavior, but which of these contributes significantly to the risk and protective dimensions remains to be determined in wider and more diverse community-based studies.

AbuMadini *et al.*²⁹ conducted a prospective study on 362 subjects, followed up for six years, and recorded the highest NSSI prevalence (10.2%). Self-poisoning by overdose followed by self-cutting were the prevalent methods of self-harm in this study. Nearly half of the participants had family conflicts, followed by self and personal conflicts. The authors concluded that DSH is not uncommon, and as it is widespread, serious, and recurring, it warrants psychotherapy and social interventions.

Discussion

This review presents the current evidence concerning the characteristics of NSSI or DSH in Saudi Arabia. Findings in this overview highlight the increasing proportion of NSSI between 1988 to 2013. Previous history of self-harm, psychiatric comorbidities, sociodemographic characteristics (e.g., women or young age), and family, interpersonal, and self-conflicts were more strongly associated with self-harm incidence.

The lowest NSSI prevalence (0.47%) was recorded by Mahgoub *et al.*,²⁵ while the highest (10.2%) was reported by AbuMadini *et al.*,²⁹ both in Al-Khobar city among cases who carried out DSH. This was lower than the international prevalence of NSSI (18%, SD = 7.3) in a systematic review conducted between 2005 and 2011.³⁰ One probable explanation is that the majority of people in Saudi Arabia follow the Islamic faith, which forbids deliberate self-destruction and offers eternal benefits in the afterlife to those who patiently suffer life's difficulties. Commitment to

religious religion and belief in afterlife has been shown to alleviate human suffering and be adversely associated with suicide or self-harm.³¹ Another possible explanation is that there is no well-established reporting system that facilitates case identification.

Mahgoub *et al.* found that most participants were single and nearly half were under 20 years, they also reported that women were four times greater than men in committing self-harm²⁵; this was also consistent with Daradkeh *et al.*²⁶ These results were also similar to international trends.^{16,17}

It is suggested that there is evidence of a bidirectional association between psychiatric issues and self-harm in women, in the sense that they act as mutual risk factors.³² This is consistent with the hypothesis that mental health and self-harm may enter a self-generating “vicious cycle” among women/girls, in the form of a dynamic system with feedback mechanisms that lead to the emergence and stabilization of pathological patterns involving both self-harm and other psychological problems.³² The lack of evidence of a mutual association between psychological concerns and self-harm in men/boys may imply that self-harm is not an equally significant problem. While self-harm is a clinical manifestation of psychological problems in boys, it may not have equally grave consequences on the future development of boys' mental health. This would indicate that “problem gravitation” involving self-harm would be less prevalent among men.^{32,33}

This review found that self-poisoning and overdose, concerning psychotropic, analgesics, and other medications, are the most prevalent method of self-harm in the Saudi population.^{25,26,29} One cause for this might be the increased availability of medicine as a result of comorbid illnesses that necessitate the use of prescription drugs. In the UK, almost 17% of the adult population are prescribed antidepressants, providing them wider access to overdose pills.³⁴ According to data from the UK's Office for National Statistics, antidepressant overdose accounted for more than one-third of self-poisoning deaths in 2014.³⁵ Interpersonal difficulties, marital problems, academic failure, and family and self-conflicts were the most common motivating factors of NSSI.

In the studies included in this review, reactive depression and stress reaction were the diagnoses of most subjects who commit NSSI. It is suggested that reactive depression is a growing environment for NSSI. Depression may mediate self-harm acts. However, this remains an issue of some doubt, complicated by the psychiatric terminology standards that do not identify the cause of the illness itself.³⁶

Strengths and limitations

This is the first review to synthesize and evaluate data on NSSI in the general population of Saudi Arabia from quantitative studies. We believe that quantitative publishing findings are critical for academics and practitioners in the area, since it further explains self-harm in older individuals. The results of this review are limited to data shown in the included studies, which were mainly based on NSSI presentations to hospital settings in Saudi Arabia (n = 5).

Further research efforts are needed to address NSSI comprehensively to provide better visualization in regard to its associated factors and overall impact on the Saudi population.

Conclusion

This review demonstrated a relatively low prevalence of NSSI in Saudi Arabia. It also demonstrated that NSSI was more common among the female population and young subjects. Self-poisoning, including drug overdose, was the most prevalent method of self-harm. Interpersonal difficulties, marital problems, academic failure, and family and self-conflicts were common motivating factors of NSSI.

Data availability

Underlying data

No data is associated with this article.

Reporting guidelines

Figshare: PRISMA checklist for ‘Non-suicidal self-injurious behavior among the Saudi population: a systematic review’, <https://doi.org/10.6084/m9.figshare.19204652.v1>.³⁷

Data are available under the terms of the [Creative Commons Zero “No rights reserved” data waiver](#) (CC0 1.0 Public domain dedication).

References

- Favazza AR: *Bodies under siege: Self-mutilation and body modification in culture and psychiatry*. JHU Press; 1996 May 9.
- Nock MK: **Self-injury**. *Annual Review of Clinical Psychology*. 2010 Apr 27; **6**: 339–363.
[Publisher Full Text](#)
- Garrison CZ, Addy CL, McKeown RE, et al.: **Non-suicidal physically self-damaging acts in adolescents**. *Journal of Child and Family Studies*. 1993 Dec 1; **2**(4): 339–352.
[Publisher Full Text](#)
- Olfson M, Gameroff MJ, Marcus SC, et al.: **National trends in hospitalization of youth with intentional self-inflicted injuries**. *American Journal of Psychiatry*. 2005 Jul 1; **162**(7): 1328–1335.
[Publisher Full Text](#)
- Jacobson CM, Muehlenkamp JJ, Miller AL, et al.: **Psychiatric impairment among adolescents engaging in different types of deliberate self-harm**. *Journal of Clinical Child & Adolescent Psychology*. 2008 Apr 16; **37**(2): 363–375.
[Publisher Full Text](#)
- Nock MK, Kessler RC: **Prevalence of and risk factors for suicide attempts versus suicide gestures: analysis of the National Comorbidity Survey**. *Journal of Abnormal Psychology*. 2006 Aug; **115**(3): 616–623.
[Publisher Full Text](#)
- Angst F, Stassen HH, Clayton PJ, et al.: **Mortality of patients with mood disorders: follow-up over 34–38 years**. *Journal of Affective Disorders*. 2002 Apr 1; **68**(2–3): 167–181.
[Publisher Full Text](#)
- Ross S, Heath N: **A study of the frequency of self-mutilation in a community sample of adolescents**. *Journal of Youth and Adolescence*. 2002 Feb; **31**(1): 67–77.
[Publisher Full Text](#)
- Klonsky ED, Muehlenkamp JJ: **Self-injury: A research review for the practitioner**. *Journal of Clinical Psychology*. 2007 Nov; **63**(11): 1045–1056.
[Publisher Full Text](#)
- Bolognini M, Plancherel B, Laget J, et al.: **Adolescents' self-mutilation-Relationship with dependent behaviour**. *Swiss Journal of Psychology*. 2003 Dec; **62**(4): 241–249.
[Publisher Full Text](#)
- Simeon D, Hollander E: **Self-injurious behaviors: Assessment and treatment**. *American Psychiatric Pub*. 2008 Nov 1.
- Iannaccone M, Cella S, Manzi SA, et al.: **My body and me: self-injurious behaviors and body modifications in eating disorders—preliminary results**. *Eating Disorders*. 2013 Mar 1; **21**(2): 130–139.
[Publisher Full Text](#)
- Nitkowski D, Petermann F: **Non-suicidal self-injury and comorbid mental disorders: a review**. *Fortschritte der Neurologie-Psychiatrie*. 2011; **79**(1): 9–20.
[Publisher Full Text](#)
- Briere J, Gil E: **Self-mutilation in clinical and general population samples: Prevalence, correlates, and functions**. *American Journal of Orthopsychiatry*. 1998 Oct; **68**(4): 609–620.
[Publisher Full Text](#)
- Halicka J, Kiejna A: **Non-suicidal self-injury (NSSI) and suicidal: Criteria differentiation**. *Advances in Clinical and Experimental Medicine: Official Organ Wroclaw Medical University*. 2018; **27**(2): 257–261.
[Publisher Full Text](#)
- Brown RC, Plener PL: **Non-suicidal Self-Injury in Adolescence**. *Current Psychiatry Reports*. 2017; **19**(3): 20.
[Publisher Full Text](#)
- Bresin K, Schoenleber M: **Gender differences in the prevalence of nonsuicidal self-injury: A meta-analysis**. *Clinical Psychology Review*. 2015; **38**: 55–64.
[Publisher Full Text](#)
- Menninger KA: **Man against himself**. *Psychohistory*. Review. 1985.
- Daradkeh TK: **Parasuicide during Ramadan in Jordan**. *Acta Psychiatrica Scandinavica*. 1992 Sep; **86**(3): 253–254.
[Publisher Full Text](#)
- Haddad SY, Haddadin KJ, Abu-Samen M, et al.: **Suicide attempted by burning: a three-year study**. *Annals of Burns and Fire Disasters*. 1998; **11**: 214–216.
- Daradkeh TK, Al-Zayer N: **Parasuicide in an Arab industrial community: The Arabian-American Oil Company experience**. *Saudi Arabia. Acta Psychiatrica Scandinavica*. 1988 Jun; **77**(6): 707–711.
[Publisher Full Text](#)
- Louw K, Breet E, Lewis I, et al.: **Methods of deliberate self-harm in a tertiary hospital in South Africa**. *The South African Journal of Psychiatry*. 2020; **26**: 1–7.
- Hawton K, Zahl D, Weatherall R: **Suicide following deliberate self-harm: long-term follow-up of patients who presented to a general hospital**. *The British Journal of Psychiatry*. 2003 Jun; **182**(6): 537–542.
[Publisher Full Text](#)
- Ouzzani M, Hammady H, Fedorowicz Z, et al.: **Rayyan—a web and mobile app for systematic reviews**. *Systematic Reviews*. 2016; **5**(1): 1–10.
[Publisher Full Text](#)
- Mahgoub OM, Al-Freih HM, Al-Mohaya SA, et al.: **Deliberate Self-Harm in The Eastern Region of Saudi Arabia: A Hospital-Based Study**. *Annals of Saudi Medicine*. 1988; **8**(2): 126–130.
[Publisher Full Text](#)
- Daradkeh TK, Al-Zayer N: **Parasuicide in an Arab industrial community: The Arabian-American Oil Company experience**. *Saudi Arabia. Acta Psychiatrica Scandinavica*. 1988 Jun; **77**(6): 707–711.
[Publisher Full Text](#)
- Al Habeeb AA, Sherra KS, Al Sharqi AM, et al.: **Assessment of suicidal and self-injurious behaviours among patients with depression**. *EMHJ-Eastern Mediterranean Health Journal*. 2013. 2013; **19**(3): 248–254.
[Publisher Full Text](#)
- Al-Sharqi AM, Sherra KS, Al-Habeeb AA, et al.: **Suicidal and self-injurious behavior among patients with alcohol and drug abuse**. *Substance Abuse and Rehabilitation*. 2012; **3**: 91.
- AbuMadini MS, Rahim SI: **Deliberate self-harm in a Saudi university hospital: A case series over six years (1994-2000)**. *Arab Journal of Psychiatry*. 2001; **12**(2): 22–35.
- Muehlenkamp JJ, Claes L, Havertape L, et al.: **International prevalence of adolescent non-suicidal self-injury and deliberate self-harm**. *Child and Adolescent Psychiatry and Mental Health*. 2012 Dec; **6**(1): 1–9.
[Publisher Full Text](#)
- Stack S: **The effect of religious commitment on suicide: A cross-national analysis**. *Journal of Health and Social Behavior*. 1983 Dec 1; **24**: 362–374.
[Publisher Full Text](#)
- Lundh LG, Wångby-Lundh M, Bjärehed J: **Deliberate self-harm and psychological problems in young adolescents: Evidence of a bidirectional relationship in girls**. *Scandinavian Journal of Psychology*. 2011 Oct; **52**(5): 476–483.
[Publisher Full Text](#)
- Bergman LR, Magnusson D: **A person-oriented approach in research on developmental psychopathology**. *Development and Psychopathology*. 1997 Jun; **9**(2): 291–319.
[Publisher Full Text](#)
- Prescribed medicines review: summary. GOV.UK: 2022. Accessed February 17, 2022.
[Reference Source](#)
- Suicides in the UK - Office for National Statistics: 2022. Retrieved 17 February 2022.
[Reference Source](#)
- Graham R: **Diabetes and self-harm: understanding and addressing the problem**. *Practical Diabetes*. 2014 May; **31**(4): 138–140.
[Publisher Full Text](#)
- Bahamdan A, Aldhawayn A: **Non-suicidal self-injurious behavior among the Saudi population: a systematic review**. figshare. Figure. 2022.
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The main problem is that the samples are too clinically and statistically heterogeneous to draw any conclusions from this review. They include both selected and unselected samples, and selected sample from different diagnostic groups - and there are huge differences in prevalences (from 0.5% over 4 years to more than 10% over 6 years). This is compounded by the small number of included studies (k=5).

One other problem is that they have only included English-language studies. With such a narrow scope (i.e. studies with Saudi Arabian people), their search should have included Arabic-language papers/reports/theses.

The introduction was difficult to follow - and did not flow. The section on Menniger was superfluous. It was not clear what the sentence on definitions was meant to add. The information on NSSI rates increasing was not relevant to this particular geographical context. The introduction should have reviewed studies from the region.

Are the rationale for, and objectives of, the Systematic Review clearly stated?

No

Are sufficient details of the methods and analysis provided to allow replication by others?

No

Is the statistical analysis and its interpretation appropriate?

Not applicable

Are the conclusions drawn adequately supported by the results presented in the review?

No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Psychiatric epidemiology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

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