Hospital presenting suicidal ideation: A systematic review

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COMPREHENSIVE REVIEW

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Abstract

Background: Research indicates that the emergency department is the primary setting for people to present with suicidal ideation. Attempting to provide interventions for this population depends greatly on understanding their needs and life circumstances at the time of presentation to services, therefore enabling more appropriate treatment pathways and services to be provided.

Aim: This review aims to collate, evaluate and synthesize the empirical research focused on the population of people presenting to hospital settings with suicidal ideation.

Method: A systematic literature search was performed. Articles that met a specified set of inclusion criteria including participants being over 18, not being admitted to hospital and presenting to an emergency department setting underwent a quality assessment and data analysis. The quality assessment used was the EPHPP Quality Assessment Tool for Quantitative Studies (Thomas et al., 2004).

Results: Twenty-seven articles were included in the review. Studies were quantitative and of reasonable methodological quality (Thomas et al., 2004). The literature was characterized by demographic information, mental health factors associated with the presentation to hospital and treatment pathways or outcomes reported. The reviewed research showed that people presenting to emergency departments with suicidal ideation were varying in age, gender, ethnic background and socio-economic status (SES). Large proportions of studies reported psychosocial factors alongside interpersonal struggles as the main presenting reason. The review highlights large variability across these factors. Mental health diagnosis was common, previous suicide attempt was a risk factor, and treatment pathways were unclear. The review identifies the outstanding gaps and weaknesses in this literature as well as areas in need of future research.

Conclusions: In conclusion, the review highlights the prevalence of people reporting interpersonal factors as the reason for suicidal ideation and not mental health disorders or diagnosis. Despite this, no mention of trauma or life stories was made in any study assessing this population. Despite a large variation across studies making synthesis difficult, data proves clinically relevant and informative for future practice and guidance on areas needing further research.

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1 | INTRODUCTION

Suicide is a global and complex phenomenon resulting in the annual loss of more than 800,000 lives worldwide (World Health Organisation [WHO], 2014). The number of suicide attempts greatly exceeds the number of deaths by suicide, and it is estimated that there are as many as 20 suicide attempts for every death by suicide (WHO, 2014). The WHO has reported that effective suicide prevention strategies should be supported by regular monitoring of suicide rates. Most countries have systems to record and process information relating to deaths by suicide not many have equivalent systems dedicated to non-fatal suicidal behaviours (Perry et al., 2012). As a result, the true prevalence of a range of suicidal behaviour in the general population is not well known and is made further difficult to assess considering not everyone engaging in suicidal behaviours seek help for these concerns (Milner & De Leo, 2010). While suicide is termed a significant cause of mortality worldwide, the continuum of suicidal behaviour ranges across a broad spectrum from thoughts of self-harm or suicide to fatal or non-fatal suicide attempts (Goodfellow et al., 2018). Suicidal ideation, defined as thoughts of engaging in behaviour intended to end one's life, has been identified as an important precursor of both attempted suicide and suicide (Crandall et al. 2006).

Emergency departments (ED) have been identified as important environments for suicide prevention as they provide opportunities for clinicians to engage with and provide support to people presenting with suicidal ideation (Griffin et al., 2019). One of the most frequently utilized methods of estimating the incidence of non-fatal suicidal behaviour is by noting such behaviour on presentation to ED. While the majority of literature focuses on self-harm presentations, few look at profiles of people who present to services with suicidal ideation. In addition to this, there are no standard or set clinical guidelines for the assessment and treatment of people presenting with suicidal ideation to acute settings (Griffin et al., 2019). The ED is the first point of contact for the majority of people with suicide-related behaviour (Ceniti et al., 2020).

Previous studies have reported that people who attempt suicide were more likely to report ongoing suicidal ideation during psychiatric evaluation in the ED (Orsolini et al., 2020). Suicidal ideation was self-disclosed frequently by patients in ED waiting rooms and patients who disclosed suicidal ideation did not always receive referrals for mental health services (Kemball et al., 2008). The emerging knowledge that ED are increasingly an important setting for introducing suicide prevention measures means studies have begun to examine ways to developing effective interventions to initiate during ED stays for patients who have attempted suicide (Boudreaux et al., 2013; Hirayasu et al., 2009). With suicide rates globally growing, the increasing number of ED visits for suicide is

Key Practitioner Message

- Large variation in the types of presentations of suicidal ideation is seen across hospital settings.
- Formal assessment for suicidal ideation is inconsistent across settings and often lacks psychological input relying on assessment tools with limited clinical utility.
- Psychosocial factors were repeatedly reported as causes for experiences of suicidal ideation, yet no focus or mention of trauma and assessment of wider contextual factors is mentioned in any aspect of the presentation, assessment or pathway.
- People presenting to hospital represent only a small amount of those experiencing suicidal ideation indicating a clear and consistent treatment pathway is required for this population.

and will continue to be a significant challenge for clinicians. Logically holding this knowledge in mind, research on suicidal behaviour in ED is highly desirable and potentially highly critical to support a large population in need.

Suicidal ideation is highly prevalent across younger demographics, men aged 20-24 and women aged 15-19 being the most common presentation (WHO, 2014) and older adults being comparatively rare. Many factors have been identified as increasing suicidal ideation risk among populations. Living in a low socio-economic area increases risk of presenting to ED with both self-harm and suicidal ideation (Skegg, 2015). An international systematic review conducted in 2013 suggests that 84% of adults who self-harm meet diagnostic criteria for a psychiatric disorder, 49% are diagnosed with depression and anxiety, 44% with depression and substance misuse and 6% with psychosis (Hawton et al., 2013). Unfortunately, literature in the United Kingdom also states that relatively few patients who present to hospital following self-harm are referred to mental health services, particularly in more deprived areas of the United Kingdom (Carr et al., 2016). As well as these factors, a previous attempt of suicide is the greatest risk factor for completed suicide (Fedyszyn et al., 2016). Large variation in presentations and lack of reliable information from ED makes it difficult to understand and analyse to implement strategies to improve outcomes. It is important to note that often risk factors for presenting to hospital settings with suicidal ideation and risk factors for suicidal ideation itself may be different.

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1.1 | Current research

This systematic review of the available literature aims is to provide a detailed profile of presentations to ED for people reporting suicidal ideation.

This systematic review aims to evaluate the presentations of people presenting to emergency healthcare settings or services with suicidal ideation. The questions supporting the review include the following:

- Who is presenting to services with suicidal ideation?
- How many presentations of people reporting suicidal ideation are seen in hospital settings?
- Are there any risk factors or protective factors associated with these presentations?
- Are there any outcome data or follow-up data of these presentations?

It is hoped that with a greater understanding of these population needs, the results could help to develop and refine strategies for preventing and intervening with suicidal ideation.

2 | METHOD

2.1 | Design

A systematic literature review was carried out in accordance with PRISMA guidelines (Page et al., 2021). Articles that met a specified set of inclusion criteria underwent a quality assessment and thematic synthesis to facilitate a maximally comprehensive insight into the extant research. The systematic review was conducted in accordance with the PRISMA statement (Page et al., 2021).

2.2 | Search strategy

A subject-specialist librarian was consulted in developing an appropriate search strategy. The databases PsycInfo (ProQuest), Medline and CINAHL (EBSCO) were searched until June 2021. This set of databases affords a comprehensive overview of the peer-reviewed literature in social and health sciences. Reference lists were used to identify further studies. The search strategies are provided below. Keywords were selected for the search including

(suicide OR suicidal ideation)

AND

('hospital'/exp OR hospitalization OR hospital OR ed OR emergency department OR clinic)

Electronic searches identified articles that contained this combination of keywords anywhere in the article. The search was restricted to English-language articles in peer-reviewed journals, which described empirical research with human participants. The search did not impose any restrictions in relation to publication date, research location or research methods.

2.3 | Inclusion criteria

The review used the following inclusion criteria:

- Studies should be set in ED or emergency services/clinics.
- Studies should only include participants of 18 years or older.
- Studies should only include outpatient populations/people presenting to services, not inpatients.
- Studies must include participants with a presenting problem of suicidal ideation.
- Studies must include demographic information on participants presenting to services.

2.4 | Exclusion criteria for studies

- Studies not published in English
- Studies that did not have emergency room/services as the setting

2.5 | Screening

References were exported to a reference management software (Covidence). All articles were initially screened through inspection of their title and abstract (EF and AB). Articles that clearly did not meet inclusion criteria were excluded at this stage, with all other articles proceeding to full-text eligibility assessment. Decisions were documented using Covidence.

Two pairs of reviewers with clinical and research expertise (EF and AB) screened titles and abstracts independently. We retrieved full-text articles if either or both of the reviewers considered a study potentially eligible. Both reviewers read the full texts, and consensus was reached regarding eligibility. The PRISMA flow chart describes the review process with reasons for exclusion (Figure 1.)

Inter-rater agreement on screening decisions at the title and abstract phase was reported as 94.2% and reported at 96.7% on the full-text screening stage. Doubts about eligibility were resolved through team discussion, guided by the aim of maximal inclusiveness, reviewers erring on the side of inclusion over exclusion.

2.6 | Data extraction

Studies meeting all inclusion criteria were coded to extract data relating to demographics (e.g. sample size and participant demographics), key characteristics of suicidal presentation (e.g. method, assessment tools and diagnosis), limitations and results. An Excel file was created to extract data. The following information was extracted; number of participants, mean age, male/female participants, socio-economic status (SES), education, race/ethnicity, marital status, means of suicide attempt, reason for suicide attempt, previous suicide attempts, mental health diagnosis, assessment tool used, outcome of presentation and previous mental health diagnosis. See Table 1 for data extraction template.



FIGURE 1 Prisma flow diagram for systematic review

2.7 | Quality appraisal

Relevant outcomes for each of the included studies were rated for methodological quality using published rating scales. For quantitative outcomes, methodological quality was assessed using the EPHPP Quality Assessment Tool for Quantitative Studies (Thomas et al., 2004). This checklist evaluated each study's internal and external validity as either strong, moderate or weak by appraising: study design, analysis, withdrawals and dropouts, data collection practices, selection bias, invention integrity, blinding as part of a controlled trial and confounders.

This tool provided well-defined instructions on how to rate each criterion and allowed for the systematic evaluation of studies with a range of quantitative experimental designs. When completing the quality assessment, two studies were removed due to being categorized as weak quality. See Table 2 for quality rating assigned to each study.

2.8 | Analysis

There was significant methodological and clinical heterogeneity between included studies. A meta-analysis of quantitative data was viewed as inappropriate, and a descriptive approach to synthesis was employed. Observed patterns of similarity and difference between study populations, presentations and outcome measures were critically appraised.

3 | RESULTS

The initial search yielded 4436 articles. Of these, 324 articles were identified as duplicates and discarded. The remaining 4112 articles were screened by abstract, at which stage 3992 of these were excluded, leaving 120 articles for the full-text screening process. A further 91 articles were excluded. Two studies were removed due to being in the lowest quality range. Twenty-seven full-text articles were included in the final review.

3.1 | Description of studies

The 27 included studies were all conducted in a general hospital setting. Over half of the studies were from countries where English is not the first language (59%) with 40% from English-speaking countries. Ten studies (37%) were retrospective chart reviews, and the remainder cohort studies (63%).

3.2 | Methodological quality of studies

The 27 included studies were assessed using the EPHPP Quality Assessment Tool for Quantitative Studies (Thomas et al., 2004).

Identified high-risk areas (weak studies) included nonrepresentative samples, non-randomized studies, not controlling for confounding variables, high withdrawal rates and no blind studies. Low-risk areas (strong studies) included randomized studies, approved and reliable assessment tools, ensuing sample represents population, controlling for confounding variables, high intervention integrity and blinding within interventions. Twenty-nine studies were included for quality rating using the EPHPP Quality Assessment Tool. Twentyseven rated as moderate, and two rated as weak for quality. A second reviewer completed quality assessments also and returned an interrater agreement of 93%.

3.2.1 | Socio-demographic factors

The overall number of participants included in the analyses from a total of 27 studies was 130,882.

Age

The studies included focused on an adult population and not including paediatric research. Three of the studies (Alves et al., 2017; Bazargan-Hejazi et al., 2017; Wei et al., 2013) included age group 16+ as their overall population. One study focused exclusively on older adult population (Keskin Gokcellia et al., 2017). Average age of participants ranges between studies to a large degree. An overall calculation including all studies included in the review indicated the average age for presentations to ED settings was 33.69 years with an age range of 16–91 years. With the large variation in age ranges across a large

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	F Assessment d	Beck Scale for N Suicidal Ideation (BSS)	Not reported	Beck Scale for N Suicidal Ideation (BSS)	Beck Scale for N Suicidal Ideation (BSS)	Beck Scale for N Suicidal Ideation (BSS)	Informal intake N assessment	Beck Scale for N Suicidal Ideation (BSS) C-SSRS	2	Psychiatry led N assessment	Nurse assessment T	Beck Scale for T Suicidal Ideation (BSS)
	Outcomes: Mental health	Mental illness diagnosis, means of suicide, reason for suicide	Mental health diagnosis, means of suicide, alcoholism	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt	Mental illness diagnosis, means of suicide, alcoholism	Mental illness diagnosis, means of suicide, reason for suicide attempt	Mental illness diagnosis, alcoholism	Mental illness, means of suicide		Mental illness diagnosis, reason for suicide attempt, alcoholism, previous suicide attempt	Reason for suicide attempt, alcoholism, previous suicide attempt	Mental illness diagnosis, means of suicide
Findings	Outcomes: Demographic	Age, education level, SES, marital status, physical illness	Age, race	Age, education level, SES, employment status, marital status	Age	Age, marital status	Age, marital status, education level	Age, education level, SES, marital status, physical illness	Age, SES, race	Age, employment status	Age, race	Age, employment status, marital status
	Method of recruitment	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room	Emergency room
	Male/female participants	25/49	9728/14862	53/186	683/1459	25/49		351/537	8610/8164	1266/2436	199/306	120/204
Number of	participants included in the study	74	24,590	239	2142	74	95	888	52,774	3698	505	404
	Year published	2007	2017	2013	2017	2006	2006	2018	2008	2020	2014	2004
	Country	China	USA	China	Brazil	China	Australia	Korea	NSA	South Korea	¥	Zurich
Ni under allocation	to study for results section.	1	2	n	4	Ŋ	8	7	6	10	11	12
	Authors name	Xhang & Xu	Bezarjan- Hejazi et al.	Wei et al.	Alves et al.	Xhang, Jia, Jiang & Sun	Donald, Dower, Correa- Velez & Jones	Kim et al.	Larkin, Smith & Beautrais	Kim, Kim, oh & Cha	Pavarin et al.	Hepp et al.

TABLE 1 Data extraction template

Follow-up Assessment data	Machine No algorithm	Beck Scale for No Suicidal Ideation (BSS) QOL scale	Beck Scale for No Suicidal Ideation (BSS) QOL scale Beck Scale for No Suicidal Ideation (BSS) QOL scale	Beck Scale for No Suicidal Ideation (BSS) QOL scale Beck Scale for No Suicidal Ideation (BSS) QOL scale No	Beck Scale for No Suicidal Ideation (BSS) QOL scale Beck Scale for No Suicidal Ideation (BSS) QOL scale No No	Beck Scale for No Suicidal Ideation (BSS) QOL scale for No Suicidal Ideation (BSS) QOL scale No Beck Scale for Treatment Suicidal pathway Ideation (BSS)	Beck Scale for No Suicidal Ideation (BSS) QOL scale for No Suicidal Ideation (BSS) QOL scale No Beck Scale for No Suicidal No No Ideation (BSS) No No	Beck Scale for Suicidal deation (BSS) No QOL scale No Suicidal deation (BSS) No QOL scale for No Suicidal No Beck Scale for Treatment pathway Ideation (BSS) HDRS Beck Scale for No For Suicidal No Ideation (BSS) No Ideation (BSS) No	Beck Scale for No Suicidal deation (BSS) QOL scale Beck Scale for No Suicidal deation (BSS) QOL scale No Beck Scale for Treatment Suicidal pathway Ideation (BSS) No HDRS Beck Scale for Suicidal deation (BSS) No	Beck Scale for Suicidal Ideation (BSS) QOL scale No Beck Scale for Suicidal No Beck Scale for Ideation (BSS) No Beck Scale for Suicidal No Beck Scale for Ideation (BSS) No
Outcomes: Mental health	Mental illness diagnosis, previous suicide attempt	Mental illness diagnosis, E means of suicide, reason for suicide, alcoholism, previous suicide attempt 0	Mental illness diagnosis, E means of suicide, reason for suicide, alcoholism, previous suicide attempt Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt	Mental illness diagnosis, E means of suicide, reason for suicide, alcoholism, previous suicide attempt Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt (0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt Mental illness diagnosis, previous suicide attempt previous suicide attempt Mental illness diagnosis, means of suicide attempt	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt E Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt E Mental illness diagnosis, means of suicide attempt Mental illness diagnosis, means of suicide attempt	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt E Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt E Mental illness diagnosis, means of suicide attempt E Mental illness diagnosis, means of suicide previous suicide attempt E	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt for suicide, alcoholism, previous suicide attempt for suicide, alcoholism, previous suicide attempt 6 Mental illness diagnosis, means of suicide attempt 8 Mental illness diagnosis, means of suicide attempt 8 Mental illness diagnosis, means of suicide attempt 8 Mental illness diagnosis, means of suicide alcoholism 8 Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt 8	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt of suicide, alcoholism, previous suicide attempt for suicide, alcoholism, previous suicide attempt 6 Mental illness diagnosis, means of suicide attempt 8 Mental illness diagnosis, means of suicide attempt 8 Mental illness diagnosis, means of suicide attempt 8 Mental illness diagnosis, means of suicide, alcoholism 8 Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt 8 Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt 8	Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt H Mental illness diagnosis, means of suicide, alcoholism, previous suicide attempt H Mental illness diagnosis, means of suicide, reason for suicide, alcoholism, previous suicide attempt H Mental illness diagnosis, means of suicide attempt H Mental illness diagnosis, means of suicide attempt H Mental illness diagnosis, means of suicide attempt H Mental illness diagnosis, means of suicide, attempt H Mental illness diagnosis, means of suicide, attempt H Mental illness diagnosis, means of suicide, reason for suicide, attempt H Mental illness diagnosis, means of suicide, reason for suicide, reason for suicide, attempt H
Outcomes: Demographic	Age	Age, educational status, marital status, employment status, SES	Age, educational status, marital status, employment status, SES Age, educational status, marital status, employment status, SES	Age, educational status, marital status, employment status, SES Age, educational status, marital status, employment status, SES	Age, educational status, marital status, employment status, Age, educational status, employment status, SES Age, education, marital status, physical health	Age, educational status, marital status, employment status, marital status, employment status, SES Age, education, marital status, physical health Age	Age, educational status, marital status, employment status, age, education, marital status, physical health Age	Age, educational status, marital status, employment status, age, education, marital status, physical health Age, education, marital age, educational status, SES, marital status, SES, marital status,	Age, educational status, marital status, employment status, SES Age, educational status, employment status, SES Age, education, marital status, physical health Age, educational status, SES, marital status, SES, employment status, marital status, race	Age, educational status, marital status, employment status, SES Age, education, marital status, physical health Age, education, marital status, physical health Age, educational status, SES, marital status, SES, employment status, marital status, race Age, educational level, SES, employment status, marital status,
ale Method of ts recruitment	.249 Emergency room	Emergency room	Emergency room Emergency room	Emergency room room Emergency room Emergency	Emergency room Femergency room Femergency room room	Emergency room room room room room room room roo	Emergency room room room room room room room roo	Emergency room room room room room room room roo	Emergency room room room room room room room roo	Emergency room room room room room room room roo
ts n the Male/fema participant	10,341/11	53/186	53/186 53/186	53/186 53/186	53/186 53/186 30/33	53/186 53/186 30/33 8646/5098	53/186 53/186 30/33 8646/5099	53/186 53/186 30/33 8646/5095 145/183	53/186 53/186 30/33 8646/5098 8646/5098 145/183 146/111	53/186 53/186 30/33 8646/5099 8646/5099 145/183 146/111 146/111
participant r included in dished study	20,526	3 366	. 366 239 . 239	3 366 8 239 280 280	.3 366 .8 239 .7 63 280	.3 366 .8 239 .8 280 .9 13,774	.3 366 .8 239 .7 63 .3 1854	.3 366 .8 239 .9 13.774 .3 1854 .8 328	.3 366 .8 239 .8 239 .3 1854 .3 1854 .3 1854 .3 280 .3 280 .3 280 .3 280 .3 257 .57	.3 366 .8 239 .8 239 .9 13,774 .3 1854 .3 1854 .0 239
Year Country publ	Australia 2021	China 201	China 2013 China 2014	China 2019 China 2014 Canada 2014	China 2015 China 2016 Canada 2018 Turkey 2011	China 2013 China 2014 Canada 2014 Turkey 201 Ireland 201	China 2013 China 2014 Lurkey 2011 Ireland 2011 Ireland 2011	China 2015 China 2018 Canada 2018 Turkey 2011 Ireland 2015 Ireland 2015 Korea 2011	China 2015 China 2016 Canada 2018 Turkey 2011 Ireland 2011 Korea 2011 UK 2011 UK 2011 USA 2001	China 2013 China 2014 China 2014 Canada 2014 Turkey 2014 Northern 2014 Ireland 2014 UK 2014 UK 2014 USA 2001 USA 2001 China 2014 China 2014
Number allocated to study for results section.	13	14	15 15	14 15 16	14 16 17	14 16 18	14 15 15 19 18 19	14 15 19 19 20	14 15 19 19 20 21 21	14 15 16 20 21 22
Authors t name r	Stapelberg, Sveticic, Hughes & Turner	Wei et al.	Wei et al.	Wei et al. Wei et al. Ceniti Heineckea & McInerney	Wei et al. Wei et al. Ceniti Heineckea & McInerney Keskin et al.	Wei et al. Wei et al. Ceniti Heineckea & McInerney Keskin Gokcelli et al.	Wei et al. Wei et al. Ceniti Heineckea & McInerney Keskin Gokcelli et al. Marriott, Hourocks, House & Owens	Wei et al. Wei et al. Ceniti Heineckea & McInerney Keskin Gokcelli et al. Griffen et al. Marriott, House & Owens Woo et al.	Wei et al. Wei et al. Ceniti Heineckea & McInerney Keskin Gokcelli et al. Gokcelli et al. Marriott, Hourocks, House & Owens Woo et al.	Wei et al. Wei et al. Heineckea Acnerit Acherney Keskin Gokcelli et al. Marriott, Hourocks, House & Owens Woo et al. Bird Bird Bi et al.

TABLE 1 (Continued)

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	-			Number of			Findings			
Authors name	Number allocated to study for results section.	Country	Year published	participants included in the study	Male/female participants	Method of recruitment	Outcomes: Demographic	Outcomes: Mental health	Assessment	Follow-up data
Zeppengno et al.	23	Italy	2015	280	97/183	Emergency room	Educational level, employment status, marital status	Mental illness diagnosis	Beck Scale for suicidal Ideation (BSS)	°Z
Poor, Tabatabaei & Bakhshani	24	Iran	2014	369	129/240	Emergency room	Education level, SES	Mental illness		°Z
Corcoran, Keeley, Osullivan &Perry	25	Ireland	2004	4463	2091/2372	Emergency room	Age	Mental illness diagnosis, means of suicide, alcoholism		°Z
Atay, Yaman, Demğrd & Akpinar	26	Turkey	2014	640		Emergency room	Marital status	Mental illness diagnosis, previous suicide attempt		o
Cripps et al.	27	Х	2020	2211	1618/1701	Emergency room	Age, SES, race	Mental illness		No

amount of studies, removing the older adult study did not significantly affect the average age.

Gender

Two studies did not include a breakdown of male or female presentations. Two studies reported male to female ratio as an overall percentage (Ceniti et al., 2020; Marriott et al., 2003), with both reporting 60% female presentations and 40% male presentations. Overall, the number of males attending across all 23 studies was 14% compared to 86% female. The three studies with higher numbers of male participants were from English-speaking Western countries (two studies reporting from the United States and one from Northern Ireland).

Education

Ten of the 27 studies reported on education level of people presenting to the ED settings. Of these, only two studies reported more than 50% of the participants having completed primary school level, only one reported more than 50% completing second-level education, and all 10 studies reported less than 30% of people attending third-level education settings.

Race/ethnicity

Only four of the 27 studies included data on the race/ethnicity of people presenting to the ED settings (Bazargan-Hejazi et al., 2017; Cripps et al., 2020; Goldberg et al., 2007; Larkin et al., 2008). Of these, mixed results were reported; in two of them, more than 50% of the participants were White with the 'other' category reporting more than 20% in each study. Variation based on the location of where the research was conducted is important, for example, one study reported 32% of people to be Latino. Many studies commented on reporting race as 'other' throughout the assessment process and therefore not including data on it when reporting final results.

Marital status

Thirteen studies out of 27 included data on the marital status of people presenting to the ED. Of these, 38% of people reported that they were married, and 42% reported to be single. Of the 27 studies, nine reported that 7% of people were divorced, and five studies collectively reported that 4% of people were widowed.

Employment

Ten out of 27 studies reported on the employment status of participants. Out of these 10 studies, only three of 10 (Bi et al., 2010; Wei et al., 2013, 2018) reported that more than 50% of people were in employment at the time of presenting. The number of people presenting who were employed at the time was 42%. Out of the same 10 studies, the number of people presenting as unemployed was 37%. Of these 10, three studies (Goldberg et al., 2007; Zeppegno et al., 2015; Zhang & Xu, 2007) reported that unemployed people accounted for greater than 50% of total presentations. Six studies reported on participants being classified as students. Of these six studies, 16% of the participants reported being full-time students.

TABLE 2 Quality rating assessment on the EPHPP protocol: results for all studies included

Study referenced by first author	Selection Bias	Study design	Confounder	Blinding	Measures	Attrition
Xhang 2007	1	2	1	3	1	NA
Bezarjan-Hejazi 2017	1	2	1	3	2	NA
Wei 2013	1	2	1	3	1	NA
Alves 2017	1	2	1	3	3	NA
Xhang 2006	1	2	1	3	2	NA
Donald 2006	1	2	1	3	2	NA
Kim 2018	1	2	1	3	1	NA
Drew 2006	1	3	2	3	3	NA
Larkin 2008	1	2	1	3	2	NA
Kim 2020	1	2	1	3	1	NA
Pavarin 2014	1	2	1	3	2	NA
Нерр 2004	1	2	1	3	1	NA
Stapelberg 2020	1	2	1	3	2	NA
Wei 2013	1	2	1	3	1	NA
Wei 2018	1	2	1	3	1	NA
Ceniti 2018	1	2	2	3	3	NA
Keskin Gokcelli 2017	1	2	1	3	2	NA
Griffen 2019	1	2	1	3	1	NA
Marriott 2013	1	2	1	3	2	NA
Woo 2018	1	2	1	3	1	NA
Goldberg 2007	1	2	2	3	3	NA
Bi 2010	1	2	1	3	1	NA
Zeppengno 2015	1	2	1	3	2	NA
Behmanehsh Poor 2014	1	2	1	3	1	NA
Corcoran 2004	1	2	2	2	2	NA
Atay 2014	1	2	1	3	2	NA
Cripps 2020	1	2	1	3	1	NA

SES

Ten out of 27 studies reported on the SES status of the participants. The number of peoples across the 10 studies reporting low SES was 26%. Only one of these studies (Larkin et al., 2008) had more than 50% of people report low SES. The number of people reporting middle SES was 50% with seven studies reporting more than 50% of people identified themselves in the middle SES bracket. Only eight of the 10 studies reported people in the high SES bracket, with the number of people being 21%. All of these studies had 30% or less participants' identity in this category.

3.3 | Assessment factors

Of the 27 studies included, the following four assessment tools/ methods were reported—screening tools and psychosocial interview, psychosocial interview, machine algorithm and medical assessment only. Fifty-five per cent of the 27 studies reported using one or a combination of screening tools for assessment in the ED. The screening tools used in the studies were the following: Suicidal Intent Scale (Beck et al., 1974), Scale for Suicidal Ideation (Beck et al., 1979), Hamilton Depression Rating Scale (Hamilton, 1960), Columbia-Suicide Severity Rating Scale (Posner et al., 2011), Structured Clinical Interview for DSM-IV Axis I Disorders (First et al., 1997) and a variety of measures of quality of life.

Thirty-seven per cent of studies reported to carry out medical assessment only, meaning no psychological or psychiatric assessment took place. Four per cent of the studies reported to use psychosocial interview only, and 3% of studies (Stapelberg et al., 2020) reported using a machine algorithm for assessment purposes.

Varying results were presented on the amount of time someone spends receiving an assessment when presenting to the ED with suicidal ideation. Nineteen out of 27 studies reported on the time spent with a person during initial assessment. Fifty-five per cent of studies reported time spent on assessment was between 1 and 2 h, 33% reported spending more than 2 h with each person, and 22% reported less than 1 h spent on assessment. Four studies (Goldberg et al., 2007; Wei et al., 2013, 2018; Xhang & Xu, 2007) reported on the time of the presentation to the ED. Results indicate 52% of presentations were between 8 AM and 8 PM (day) and 48% of presentations were between 8 PM and 8 AM (night).

The outcome of the presentation for 10 of the 27 studies was recorded as either admitted or discharged. In three of the 10 studies (Alves et al., 2017; Atay et al., 2014; Bazargan-Hejazi et al., 2017), over 50% of people were reportedly discharged. The amount of people presenting and discharged in these 10 studies was 39%. In four of the 10 studies (Bazargan-Hejazi et al., 2017; Goldberg et al., 2007; Marriott et al., 2003; Pavarin et al., 2014), over 50% of the people presented were admitted to inpatient care. The number of people admitted to hospital of the 10 studies included was 34%.

In four studies, referral to community services were recorded also. The following were the percentage of people in those studies who received a referral to attend community services: 9%, 29%, 54% and 15%. Two studies also reported deaths indicating 1.3% (Zhang et al., 2006) and 9% (Bazargan-Hejazi et al., 2017) of participants died after presenting to the ED setting. People who were neither classified as admitted or discharged were sent back to their GP, community teams or nursing or left without an onward referral.

Twelve studies reported on participants having previously had a suicide attempt recorded. Only one study (Goldberg et al., 2007) reported more than 50% of participants having a previous suicide attempt. The number of participants who met these criteria from the 12 studies recording these data was 31%.

3.4 | Mental health factors

3.4.1 | Suicide attempt/ideation reasons

Eight studies reported on reasons given by participants for presenting to the ED with suicidal ideation. Reasons attributed to love/ marriage were the most commonly reported. This reason was reported in all eight studies, while in four of the eight studies, it was reported by more than 50% of participants as the main reason they felt suicidal thoughts (Kim et al., 2020; Wei et al., 2013; Woo et al., 2018; Zhang & Xu, 2007). In six of the eight studies, family and relationship problems were recorded by participants. Four of the studies reported work/study concerns to be the main reason for experiencing suicidal ideation. Three studies report physical illness as being the main reason for them, while only two studies (Wei et al., 2018; Woo et al., 2018) record people reporting mental illness as the reason for their experience. One study reported on participants reporting physical illness as being a main factor for their experience of suicidal ideation. This study reported 5.4% people reporting this reason (Zhang & Xu, 2007).

3.4.2 | Means of suicide

Fifteen of the 27 studies reported on the method used by participants in attempting suicide or engaging in suicidal behaviour. The majority of studies report on two main methods of suicide—self-poisoning or self-harming behaviour. Of the 15 studies, nine reported that more than 50% of participants had reported self-poisoning as the method of suicide. The rate across the 15 studies for self-poisoning was 55%. Fourteen of the 15 studies reported self-harming behaviour as a means of suicidal ideation. The number of participants reporting selfharming as a method of suicidal ideation across the 14 studies was 11%. Five studies reported drug overdose as a method of suicide with three of the five studies reporting over 60% of participants overdosing. Four of the five studies report firearms as the method of suicidal ideation; however, the percentage of people reporting this was very low (1%–14%). Hanging and jumping from a height were also reported in five studies as methods of suicide. 3.6% of people engaged in hanging as a method of suicide, and 4.2% of people engaged in jumping from a height.

3.4.3 | Alcoholism

Eleven studies reported on the participants suffering from alcoholrelated problems and being intoxicated when presenting to the ED. Of these 11 studies, four of them (Bi et al., 2010; Goldberg et al., 2007; Griffin et al., 2019; Kim et al., 2020) reported more than 40% of presentations to meet these criteria. The number of people presenting meeting these criteria of the included studies was 24%.

3.4.4 | Mental illness

Ten out of 27 studies reported on specific mental illness diagnosis received by people prior to presenting at the ED. The following diagnoses were the ones reported by participants: schizophrenia, mood disorder, depression, personality disorder, psychosis and adjustment disorder. Three studies (Bazargan-Hejazi et al., 2017; Cripps et al., 2020; Kim et al., 2018) reported people presenting with a diagnosis of schizophrenia although it was a low percentage of people: 11%, 4% and 2%. Nine of the 10 studies reported people presenting with mood disorders; the percentage of people was 29% across the nine studies. Nine out of the 10 studies also reported people presenting with a diagnosis of depression; the number of participants across the nine studies was 19%. Three of the 10 studies reported people presenting with a diagnosed personality disorder: 3%, 8% and 10% (Bazargan-Hejazi et al., 2017; Cripps et al., 2020; Woo et al., 2018). Nine out of the 10 studies reported people presenting with an adjustment disorder; the number of people presenting with this across the nine studies was 12%. Eight out of the 10 studies reported people presenting with psychosis. The number of people with this diagnosis was 7% across the eight studies.

Some additional information which was not analysed but mentioned in more than three studies should be noted. Studies reported that the time of year with the highest suicide rate was November, followed by March with the least in June/July (Stapelberg et al., 2020).

4 | DISCUSSION

This review identified and examined 27 papers which reported on people presenting to emergency settings with suicidal ideation. Summarizing these studies provided a large amount of data giving a rich understanding of the profiles of presentations to the ED. With regard to the methodological quality of included studies, few studies provided highly rated reliable data collection methods when assessed. It must be acknowledged that several studies eligible for inclusion in this review did not set out to examine this area of research and retrospectively analysed data for inclusion. There is no consistency on the data reported by each study individually in order to analyse the same outcome measures across all 27 studies. This has been accounted for in analyses to provide the most accurate data possible from a large amount of studies. Large variation was seen across studies in relation to assessment process, treatment pathway and demographic variables.

This systematic review gives information on the population of people presenting to services seeking assistance for their experience of suicidal ideation. Consistency was seen across all but three studies reporting that the presentations of this nature are females for the majority. Other demographic information analysed indicates that single people are more likely to present (42%) but that married people were close in comparison (38%). There was an even spread of people being in employment or unemployed with slightly more reported as in employment while people reported as students was inconsistent. The majority of people came from middle SES backgrounds.

The review highlighted the unclear and inconsistent treatment pathways for this population. A wide variety of assessment was used to determine the patients risk status, most commonly used was the Beck SIS (Beck et al., 1979). Only half of studies, 55%, reported using more than one assessment method, including psychosocial interview and questionnaires or medical assessment and psychosocial interview. A large proportion of people (37%) received medical assessment only and no psychological or psychiatric assessment or care. Thirty-four per cent of people were admitted to hospital, while similar but slightly more were discharged (39%). It is not clear as to how many people received follow-up care and even less reported on onward referrals to community services, thus highlighting a large gap in the literature and a potential need for future research on the outcomes for these presentations including treatment decisions and follow-up care pathways.

Consistent with previous research (Goñi-Sarriés et al., 2018; Gvion & Levi-belz, 2018), a previous suicide attempt was a high risk factor identified consistently across studies which is valuable information for provision of care going forward for these presentations. Thirty-one per cent of people presenting had previous experiences of suicidal ideation. In terms of DSM diagnosis, the most commonly reported diagnosis for people presenting to services was mood disorders consistent across all studies reporting on mental health diagnosis. However, it is worthwhile noting that data indicate that the majority of presentations reporting suicidal ideation are attributing this to psychosocial factors and not mental health disorders—a finding that is both relevant and informative for clinical settings and the role for psychologists to work with people presenting in this way. Exploring this finding further would lead us to question how traditional approaches such as the medical style models are attempting to assess and treat these types of presentations as by history they are medical or psychiatric in nature. However, the data would indicate that life factors, daily stress and crisis in personal circumstances are leading people to present in this way, further indicating how we respond to them may need to be therapeutic in nature and not medically based.

An important finding relates to the use of assessment for suicidal ideation in the hospital setting. Previous research has suggested that suicide risk assessment tools, some of which are discussed in this review, have inadequate reliability and low positive predictive value (Carter et al., 2017; Runeson et al., 2017). Most instruments were supported by too few studies to allow for the authors to evaluate their accuracy and of those that could be evaluated, not one fulfilled requirement for sufficient diagnostic accuracy. This has clinical implications for the use of these tools in settings such as this. As well as being potentially unreliable in providing valuable information to clinicians, they are time consuming to complete and may not be suitable for fast paced hospital environments.

While a clear picture of the profile of presentations to the ED settings for suicidal ideation can be seen, it is unclear what the best assessment and outcome measures are for this population. Huge variability across settings indicates no clear guidelines or response to this population needs has been established. Future research should consider this for service planning and considering which professionals are best place to intervene and support this populations needs. As mentioned earlier, considering the psychosocial factors contributing to these presentations in the majority of cases, a blended assessment approach for psychiatry and psychology should be considered to meet their needs as a whole.

Considering the findings that mental illness is not reported as the main contributing factor to suicidal ideation, a focus on psychosocial stressors as well as trauma factors as causal for these presentations must be further examined. Interpersonal factors are prevalent as reported reasons for suicidal ideation across all studies reviewed. Importantly, for clinical practice, clinicians need to be asking about trauma at this crucial time and need to be working in a trauma informed manner and considering the life events and journey of the person in front of them when carrying out initial assessments. Further research into this area could highlight important factors to consider when planning next step interventions for these people. A final but important point to note is that research indicates presentations of suicidal ideation to the ED are only representative of a small proportion of people that experience suicidal ideation. The people presenting represent those who engage in 'help-seeking' behaviours, willing to present to services. It is indicated the majority of people do not seek out help and yet still experience suicidal ideation.

4.1 | Limitations and recommendations

The following limitations were noted. Where demographic characteristics were reported, there was heterogeneity across participants in terms of age, gender and ethnicity, although White females are highly represented in the review. These findings are consistent with previous research in the area (Runeson et al., 2017). With regard to treatment provision, only a small number of studies provided a comprehensive breakdown of the different aspects of the care pathway or specified the medical professionals encountered when attending the ED setting. Methodologically, many studies had small sample sizes to infer results to the larger population as well as data collection methods being rated as low on a quality assessment in some studies. A detailed synthesis was limited by the varying method and data collection seen across studies. This suggests a need for further development of theoretically informed qualitative research and larger scale quantitative research in this subject area. Studies would also benefit from longitudinally tracing changes in patients' lived experiences over time. The ability to generalize the results from this review across different countries and larger populations is questionable. Further research may be needed to support the generalisability of these findings.

Despite the limitations, the review provides insight into the population of hospital presenting suicidal ideation. Valuable information can impact treatment pathway's and outcomes for these people. In conclusion, as initially suggested, the ED setting is a priority for assessing and intervening on presentations of suicidal ideation. While presentations are seen in large numbers across all countries, wide variety of means and demographic characteristics, a streamlined approach to care and management of this population is key to reducing overall presentation numbers and ensuring consistent and effective care for suicidal ideation.

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CONFLICT OF INTEREST

There was no funding received for this research. The first author, Emma Fawcett, completed this research as part of her D.Psych.Clin in UCD and is sponsored by the HSE while completing this training. No conflicts of interest were identified.

DATA AVAILABILITY STATEMENT

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request. All data generated or analysed during this study are included in this published article.

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