**Title page**

**Manuscript title**: Role of the general practitioner in the management of patients with self-harm behaviour in primary care: a systematic review

**Manuscript type**: Research article

**Authors**: Mughal F, Troya MI, Dikomitis L, Chew-Graham CA, Corp N, Babatunde OO

**Corresponding author:**

Dr Faraz Mughal, NIHR In-Practice Fellow, School of Primary, Community and Social Care, Keele University, Staffordshire, ST5 5BG. F.mughal@keele.ac.uk

Honorary Clinical Research Fellow, Unit of Academic Primary Care, University of Warwick, CV4 7AL

**Co-authors:**

M. Isabela Troya, PhD Student, School of Primary, Community and Social Care, Keele University, Staffordshire, ST5 5BG

Dr Lisa Dikomitis, Senior Lecturer in Sociology of Health, School of Medicine and ,School of Primary, Community and Social Care Keele University, Staffordshire, ST5 5BG

Professor Carolyn Chew-Graham, Professor of General Practice Research, School of Primary, Community and Social Care, Keele University, Staffordshire, ST5 5BG

Honorary Professor of Primary Care Mental Health, Midlands Partnership NHS Foundation Trust, St George’s Hospital, Stafford, Staffordshire

Dr Nadia Corp, Research Associate in Systematic Reviews, School of Primary, Community and Social Care, Keele University, Staffordshire, ST5 5BG

Dr Opeyemi Babatunde, Lecturer in Evidence Synthesis, Centre for Prognosis Research, School of Primary, Community and Social Care, Keele University, Staffordshire, ST5 5BG

**Word count**: 3763

Figures: 1

Supplements: 1

Tables: 4

**Abstract**

Background

Self-harm is a serious risk for suicide, a major public health concern, and of significant burden to the NHS. Rates of self-harm in primary care are rising and general practitioners (GPs) are in contact with patients before and after self-harm. There is strong national interest in reducing rates of self-harm but there is no robust synthesis of available evidence on the role of GPs in the management of patients who self-harm.

Aim

To explore the role of the GP in the management of patients with self-harm behaviour.

Design and setting

A systematic review and narrative synthesis of primary care literature.

Method

This systematic review was conducted and is reported in line with PRISMA guidance. Electronic databases systematically searched were: MEDLINE, PsycINFO, EMBASE, CINAHL, Web of Science, and AMED. Two independent reviewers conducted study screening and selection, data extraction, and quality appraisal of included studies. Thematic analysis was conducted.

Results

From 6,976 unique citations, 12 studies met eligibility criteria and were included. The studies published from 1997-2016 of 789 GPs/family medicine physicians from Europe, America, and Australia were of good methodological quality. Facilitating themes for GP management of self-harm were; GP training, improved communication, service provision, clinical guidelines, and young people. Barriers for GP management of self-harm were; assessment, service provision, local, and systemic factors.

Conclusion

GPs recognise self-harm as a serious risk for suicide, but some feel unprepared. The role of the GP is multidimensional including frontline assessment and treatment, referring for specialist care, and providing on-going support.

**Keywords:** General practitioner, self-harm, suicide, primary care, systematic review.

**How this fits in:**

Self-harm presenting to primary care is rising. Patients see their general practitioner (GP) in the month preceding and after self-harm. There is no systematic synthesis on the role of the GP in the management of patients who self-harm. The role of the GP is multidimensional and flexible across the patient journey including frontline assessment and treatment, referring to specialist care, and on-going support in primary care. This will inform the development of primary care self-harm models outlined in the NHS Long Term Plan.

**INTRODUCTION:**

Self-harm is the strongest risk for suicide and a major public health challenge in the United Kingdom (UK). (1, 2) Self-harm is a concern throughout the life-course with more than half of young people who die by suicide having a history of self-harm, increasing male self-harm incidence rates reported in midlife, and older adult self-harm raising the risk of suicide by 145 times.(2-4) The increasing incidence and prevalence of self-harm is a significant burden for the National Health Service (NHS). (5, 6) An estimated 220,000 self-harm episodes present yearly to Accident and Emergency (A&E) departments in England. (7).

The rates of self-harm presenting to primary care are rising (a 68% increase in self-harm presentation in girls aged 13-16 between 2011-2014) but only a minority of patients who self-harm in the community present to healthcare services.(5, 6, 8, 9) The National Institute for Health and Care Excellence (NICE) self-harm guidance highlights the important role primary care has in the management of patients who self-harm. (4-6, 10) There are however, only a few recommendations specific to general practice.(10)

In 2018, the NHS Zero Suicide Ambition was launched and the first Minister for Suicide Prevention in the UK was appointed highlighting the growing national focus on preventing suicide.(11, 12) Reducing self-harm is a new key national priority for the National Suicide Prevention Strategy and the NHS Long Term Plan commits to the development of primary care self-harm models.(13, 14)

Two-thirds of patients who self-harm present to their general practitioner (GP) in the month prior to a self-harm episode and in the month after an episode of self-harm.(15)

There is no synthesised evidence regarding the knowledge, attitudes, and behaviours of GPs, and the facilitators and barriers to GP management of patients who self-harm. It is therefore important to systematically study the role of the GP in management of patients with self-harm behaviour.(15)

The aim of this systematic review is to explore the role of the GP in the management of patients with self-harm behaviour. Specific objectives were to:

1) Study the knowledge, attitudes, and behaviours of GPs in the assessment and treatment of self-harm

2) Explore the barriers, facilitators, and areas of need for the GP management of self-harm in primary care

3) Identify outcomes of GP consultations for self-harm

**METHOD:**

**Protocol:**

The protocol was registered with PROSPERO (CRD42018084703).(16) This review was conducted and reported in accordance with PRISMA guidance.(17)

**Search strategy and information sources:**

Six electronic databases: MEDLINE, PsycINFO, EMBASE, Web of Science, AMED, and CINAHL were searched from inception to 6 February 2018 using a structured search strategy. The full MEDLINE search strategy can be found in Supplement 1.

Self-harm was defined in accordance to NICE as: ‘self-poisoning or injury, irrespective of the apparent purpose of the act’, thus including the term ‘suicide attempt’.(10) Parasuicide, although an abandoned term, was included for thoroughness.(18) ‘Suicidal ideation’ was incorporated to capture studies where self-harm data may have been reported. Reference lists of included studies were hand-searched. No language or location restrictions were applied.

**Eligibility criteria:**

Studies were included if they reported relevant self-harm data from GPs/family medicine doctors/family physicians/primary care physicians. Self-harm data from patients of all ages were included. Observational, qualitative, and mixed methods study designs were all included.

The study eligibility criteria are outlined in Table 1.

**Study screening and selection:**

Two authors (FM and IT) independently reviewed all titles, abstracts, and full-texts against pre-defined and piloted eligibility criteria. Discrepancies were resolved through discussion with a third author (CCG). Where appropriate, translations of full-text studies were sought in order to determine eligibility. References were managed through Legacy RefWorks.

**Data extraction and quality assessment:**

Eligible full-text studies were subjected to data extraction and quality appraisal by two authors (FM and IT). Data were extracted on: study aim, study design and location, number of clinicians, clinician knowledge, attitudes, and behaviours, facilitators, barriers, consultation outcomes (referral, follow up, length of consult), and clinician and author expressed training needs. Where necessary, to ascertain accurate representation of data corresponding authors of 4 studies were contacted for clarification.

Terms were pre-defined to ensure consistency in data extraction:

* Clinician *‘knowledge’*: ‘facts, information, and skills, acquired through experience or education; the theoretical or practical understanding of a subject’.(19)
* Clinician *‘attitude’*: ‘a settled way of thinking or feeling about something’.(19)
* Clinician *‘behaviour’*: ‘the way in which one acts or conducts oneself, especially towards others’.(19)

The Mixed Methods Appraisal Tool (MMAT) was used to assess methodological quality of included studies.(20) Discrepancies in data extraction and quality assessment were resolved through discussion until consensus was achieved.

**Narrative synthesis:**

A narrative synthesis of data was conducted using the framework of Popay et al.(21) The first stage was to develop a theory on the role of the GP prior to starting the review, which is not reported here. The second stage was to develop a preliminary synthesis and was undertaken by tabulation allowing for emerging patterns to be highlighted. The third stage was to explore relationships within and across studies and this was done by exploring similarities and differences identified across studies. Thematic analysis enabled themes to be identified across studies and were agreed upon by all authors. The final stage was to assess the robustness of the synthesis which is not reported here.

**RESULTS**

The search yielded 6,976 unique citations, out of which 46 full-text articles were reviewed for eligibility, and 12 full-text studies were included in synthesis. Figure 1 outlines the flow of studies within the review.

**Study characteristics:**

Table 2 details individual study characteristics. Included studies involved 789 GPs/family medicine physicians from Europe (n=10), America (n=1), and Australia (n=1).(22-33) The clinician age range was reported to be 20-63 years, while male-to-female clinician ratio was 254:203.(22, 25, 26, 28, 29, 31, 33)

**Quality assessment:**

The methodological quality of most of the included studies (n=9) was high (75% or 100%). Table 4 highlights MMAT study scores with reasons where 100% was not achieved. Studies that scored poorly (25%) (n=3) had unrepresentative samples, poor reporting of outcomes, and used non-validated tools.(27, 30, 33) Studies that scored 100% (n=3), presented findings in the appropriate context with researcher reflexivity.(28, 29)

**Clinician knowledge, attitudes, and behaviours:**

In the following section, we present the main reported outcomes of the systematic review: clinician knowledge, attitudes, and behaviours, facilitators and barriers for GP management, consultation outcomes, and training needs. Within the facilitators and barriers, there are identified themes reported that have emerged from the data.

Knowledge:

Some GPs attain some knowledge of managing self-harm, primarily through teaching and training. Three studies mentioned clinicians receiving additional training in self-harm.(22, 26, 30) One study reported GP self-perceived competence on suicidal behaviour to be 3.2 (95% confidence interval, 3.1-3.4) on a 1-5 scale, with only 39% (35/91) of GPs attending training in the last 5 years.(26) Amongst included studies, reports concerning self-harm training being provided less than general mental health training were noted.(30)

GPs reported a taught theoretical link between self-harm and risk of suicide, although, this is contrasted by practical experience of managing patients who self-harm as a way of ‘releasing’ emotions.(22) Furthermore, there remains uncertainty amongst GPs over how to establish future risk of self-harm.(28)

Attitudes:

Some GPs suggest that self-harm is help-seeking behaviour. Although positive in their attitude to support self-harm patients, GPs lack confidence in self-harm management. They rely on clinical instinct to guide risk assessment and recognise the challenge of identifying suicidal intent in self-harm risk assessment.

Three studies related GPs felt self-harm to be a ‘cry for help’ and help-seeking behaviour.(22, 28, 31) One study described self-harm as ‘tension-release’ and another study relayed self-harm to be a coping strategy for young people.(22, 25) Two studies found GPs felt patients with self-harm behaviour should have a mental health assessment.(27, 29) Another study reported that GPs, do however, want to support patients following self-harm and have a positive attitude towards people with self-harm behaviour.(26) One study reported that GPs see themselves as frontline support for young people and a ‘stop-gap’ service for young people with self-harm behaviour whilst awaiting specialist assessment.(25)

Three studies suggested that GPs reported a lack of confidence and 53% (137/260) felt unprepared in assessing and communicating with patients who self-harm, specifically on suicide risk assessment, and working with young people.(22, 25, 33) GPs felt self-harm is on a ‘spectrum of risk’ for suicide, with some GPs suggesting it is hard to separate self-harm from ‘suicidality (self-harm with suicidal intent)’.(22, 25)

GPs in one study commented that identifying suicidal intent is imprecise, and also the patient may not be able to, or wish to disclose, suicidal intent if present.(22) GPs suggested the difficulty lay in the complex and close relationship between self-harm and suicide.(22) Two studies highlighted that GPs reported using ‘gut feeling’ and instinct in conducting self-harm risk assessment and management in adults and young people.(22, 28) In one study GPs emphasised the lack of accessible self-harm primary care services.(30) One study described GPs felt hospital admission for self-harm reinforces self-harm behaviour.(32)

GPs working with disadvantaged patient groups seemed more likely to suggest suicide risk assessment as an imprecise endeavour as patients’ lives were described as volatile and dangerous.(22) Interestingly, GPs who worked in rural and affluent areas discussed self-harm with and without suicidal intent as distinct separate practices.(22)

In one study GPs felt self-harm in young people should be acknowledged for both the young person and parents and not ignored.(25) GPs felt self-harm is linked to social problems and more common in older adolescents.(25) There were however concerns over potential conflict with parents of young people, and in isolating the young person who self-harms.(25)

Behaviours:

GPs appear to adopt different consultation strategies when assessing self-harm in adults and young people and use an array of treatment options. They reported managing self-harm by utilising both primary and secondary care services. Three studies described GPs referring patients with self-harm behaviour to secondary care settings; A&E, ambulatory care, and mental health services.(23, 24, 27) Four studies mention GPs managing self-harm in primary care.(22, 23, 25, 27)

One study described a GP who reported not always intervening in a self-harm patient with suicidal thoughts – passing the responsibility back onto the patient.(22) Another study highlighted GPs using direct questions, lay terminology, and building rapport with young people who self-harm.(25) A further study portrayed uncertainty among GPs when managing young people with self-harm behaviour.(28)

One study reported the lack of self-harm coding in electronic general practice records and in rural settings GP referrals are influenced by service provision.(29, 32) Crawford and Wessely identified that GPs undertake psychosocial interventions post self-harm, start or continue psychotropic medication, refer to community counselling, and are more likely to intervene if there is documented suicidal behaviour/ideation.(23)

Table 3 summarises the key similarities and differences across studies of clinician knowledge, attitudes, and behaviours.

**Facilitators:**

Five themes on facilitators to GP management of self-harm in primary care emerged from the synthesis:

*GP training*

Training was the most identified facilitator for GP management of patients who self-harm, an important facet to improved care of patients with self-harm behaviour.(25, 27, 28, 30, 33) Specific training highlighted included: continuing professional development (CPD) on self-harm, communication skills for the primary care team, GPs learning brief psychosocial interventions, and assessment of young people.(25, 27, 28, 33) An improvement in GP confidence in suicide risk assessment and self-harm training within the primary care context were identified.(22, 30)

*Improved communication*

Enhanced communication between primary care and mental health teams is an essential facilitator. Four studies relayed the need for better communication between mental health (Community Mental Health Teams/Child and Adolescent Mental Health Services) and primary care teams on patient risk assessment, treatment plans, follow up, and discharge.(25, 27, 30, 32)

*Service provision*

Enhanced service provision for self-harm in primary care would support GP management. A single point of access (SPOA) for self-harm and a keyworker across practices focusing on information sharing and mental health care integration were examples highlighted.(29) A community psychiatry nurse (CPN), counsellor, or psychologist attached to practices were also suggested.(29) The need for dedicated primary care self-harm services was highlighted.(29, 30)

*Clinical guidelines*

The co-production of self-harm guidelines is key for effective GP self-harm management. Three studies identified a need for co-produced self-harm clinical guidelines in all ages.(29, 30, 33) The use of general practice self-harm risk tools and implementation of self-harm management guidelines was advocated by GPs in one study (32)

*Young people*

Parents and guardians of young people have an important part to play in the management of young people. Two studies described the involvement of parents/care-givers in help-seeking and in the consultation as a facilitator.(25, 28) A study reported GPs felt young people completing a questionnaire (questionnaire content not stated) for the next consult would assist in management.(25)

**Barriers:**

Four themes on barriers to GP management of self-harm in primary care emerged from the synthesis:

*Assessment*

Time and confidence was reported to affect GP assessment of patients with self-harm behaviour.(22, 25, 28, 29) Feeling unprepared and having a lack of specialist knowledge were further challenges identified.(22, 33) One study found a self-harm screening tool for young people to be too formal and a barrier to listening.(25)

*Service provision*

The current shortage of alternative self-harm and support services is a barrier to effective GP management. A lack of funding, patient liaison and community services, in-practice self-harm services, and counsellors who speak minority languages were all identified as barriers to GP management.(25, 29, 30) One study identified a lack of support for suicide risk assessment in primary care.(22)

*Local factors*

Local factors were identified that negatively influenced GP management of self-harm. The long waiting times to receive letters from CAMHS were highlighted.(29) A lack of written self-harm practice policies was recognised as a barrier.(30) In rural settings, there were concerns over maintaining patient confidentiality and on inadequate follow up and communication on risk, treatment, and discharge plans from mental health services.(32) Two studies mentioned the involvement of parents/care-givers as potential barriers to the open discussion of self-harm with young people in the consultation.(25, 28)

*Systemic factors*

Systemic factors hindered GP ability to effectively manage self-harm patients. Heavy workload for GPs was seen as a barrier to thorough suicide risk assessment.(28) Demographic boundaries were felt to interfere with GP referral pathways to mental health services.(29) One study cited a lack of out-of-hours patient record access and access to mental health services were obstacles to GP management.(32) The same study mentioned the inability to choose which mental health professional the GP could refer to as a further barrier.(32)

**Consultation outcomes:**

Admission:

GPs admit patients who have self-harmed to hospital although the severity of self-harm in those admitted is unknown. Three studiesmentioned GPs admit patients who have self-harmed to hospital, ranging from 60% (128/212) to 80% (244/305) of patients who attempted suicide.(24, 27, 31)

Referral:

GPs refer to counselling and secondary care services. GPs referred 19% (58/305) for ambulatory care follow-up.(24) One study identified a GP referring patients to specialist services for suicide risk assessment.(22) Three studies reported GP referrals made to mental health services, 15% (31/211) in Crawford and Wessely and 30% (64/212) in Fitzsimons et al.(23, 25, 27) Two studies mentioned referrals to counselling services.(23, 27)

Follow up:

Self-harm patients are followed up in general practice. 7% (14/212) were followed up in general practice in Fitzsimons et al.(27) In young people, GPs provided regular follow up.(25) Patients at greater risk of perceived repeat self-harm were more likely to have self-harm documented in their records.(23)

Management:

GPs undertake psychosocial interventions and prescribe medication for patients who self-harm. Two studies outlined GPs conducting psychosocial interventions in the consultation, 27% (55/211) in Crawford and Wessely.(23, 25) 9% (18/211) of patients were prescribed new or repeat psychotropic medication.(23) Where self-harm was documented in patient records, 75% (42/56) received an intervention.(23)

Length of consultation:

No studies reported GP consultation length.

**Training needs:**

Clinician expressed:

Primary care doctors want varied continual CPD with a focus on young people consultations. Three studies reported GPs stating a need for on-going CPD with practical information in varied formats (online, small groups, face-face, and tutor).(25, 27, 29) Three studies described training needed for managing young people on: involving guardians in consultations, maintaining confidentiality, communication, self-harm risk factors, and managing challenging consultations.(25, 28, 33)

Author inferred:

Study authors relay a need for training on the management of patients with self-harm behaviour within a general practice context. One study stated accessible and enhanced training is needed on the assessment and management of self-harm, incorporating GP experience and the role of general practice in suicide prevention.(22) There were concerns of low identification of self-harm in 11-14 year olds and a push for training on managing young people.(25) Michail and Tait argue for a taught co-produced holistic approach to suicide risk assessment in young people.(28) Taliaferro et al relayed training needed on psychosocial assessment and ways to reduce self-harm behaviour in young people.(33)

**DISCUSSION:**

Summary:

GPs recognise self-harm as a serious risk for suicide and their responsibility in assessing and treating patients who self-harm, but some feel unprepared. The lack of available self-harm training is a cause for concern given self-harm is generally managed in primary care. The challenging nature of managing self-harm is highlighted especially in young people, but GPs do see themselves as frontline support for young people who self-harm.

Five facilitating themes were identified that if addressed would enable more effective GP management: GP training, improved communication, service provision, clinical guidelines, and young people. Four themes on barriers arose: assessment, service provision, local, and systemic factors.

GP consultation outcomes with patients who self-harm include patient admission to hospital; referral to counselling or secondary care services, follow-up in general practice, and GPs conducting psychosocial interventions and/or prescribing psychotropic medication. GP self-harm training must be varied, include managing young people, and relevant to the primary care context.

The role of the GP in the management of patients with self-harm behaviour is multifaceted and flexible across the patient journey including:

* Providing frontline assessment and treatment
* Referring to specialist care
* On-going support in primary care.

Strengths and limitations:

This is the first systematic review exploring the role of the GP in managing patients who self-harm. The review methodology was consistent with established standards (PRISMA) with review processes of study selection, data extraction, and quality appraisal piloted by the review team and conducted independently by pair of authors.(17) The narrative synthesis approach allowed for inclusion of both quantitative and qualitative data.(21) A broad search strategy was implemented to achieve high search sensitivity.(34)

A limitation of narrative synthesis is that without a critically reflexive approach to the synthesis process there is the possibility of biased and inaccurate conclusions.(21) This was addressed by reflecting on the quality of evidence included and by pre-defining terms prior to data extraction. Two PhD theses were excluded in the selection process due to resource capacity and inability to obtain them, thus increasing risk of selection bias.(35). Four studies that utilised survey methodology recruited small samples and their results may not be representative of all eligible GPs.(26, 27, 30, 33)

No evidence on GP consultation length was found in included studies, however GPs reported a lack of time as a significant barrier in the management of self-harm.(22, 25, 29) Two studies stated GP age range to begin from 20 and 25 in England.(25, 28) Neither of both ages would represent the minimum age of a post Certificate of Completion of Training GP in England.(36) Included studies were from Western countries and this review did not capture GP evidence from low and middle income countries.

Comparisons with existing literature:

An Australian qualitative study reported GPs felt they had no significant role to play in the care of older adults who self-harm, feeling hopeless when dealing with complex medical and social needs, and citing a lack of treatment options.(37) This systematic review found GPs were concerned over a lack of primary care self-harm services to support their management but importantly, GPs were positive to patients with self-harm, taking responsibility to manage patients, sometimes reflecting this responsibility onto the patient.(25, 26, 31)

GP training as part of suicide prevention programmes can improve clinician skills in assessment and management of suicide risk but the effect on reducing self-harm, repeat self-harm, and suicide is equivocal.(38-40) The described difficulty in distinguishing suicidal intent in self-harm is widely recognised, with NICE defining self-harm irrespective of suicidal intent.(10, 22, 41)

GPs expressed uncertainty in establishing self-harm risk.(28) We are not aware of effective general practice methods to predict or assess self-harm and thus feel this uncertainty is appropriate. The prediction of self-harm using self-harm risk scales in emergency departments is poor and not cost-effective.(42, 43)

Implications for research and practice:

This review highlights the lack of evidence on the GP role in self-harm management. We feel the role of the GP is multi-dimensional, but with time constraints.(22, 25, 28, 29) Future research should examine the impact of self-harm on GP consultation length and understand how GPs can maximise the potential of the general practice consultation to support patients who self-harm.(44) Gaining in-depth views of patients and mental health colleagues is important in further exploring the GP role. We present the role of the GP grounded in current primary care but do recognise the role of the GP will be refined and developed over time.(14)

The GP is placed to support early identification and intervention in patients who self-harm and therefore the development and testing of effective brief GP-delivered self-harm interventions to reduce self-harm is urgently needed and potentially can reduce admission and referral rates to secondary care.(22, 23, 25, 27) At present, there are no effective GP-delivered self-harm interventions.(40) This also meets a key aim of the National Suicide Prevention Strategy.(13)

This review identifies an urgent need for acceptable, on-going, and holistic training for GPs about self-harm, to improve their knowledge and confidence in management, particularly in communication with young people, that must be continually evaluated and cost effective.(22, 28) The recent self-harm and suicide prevention competence framework may aid in developing appropriate general practice training.(45) The development of self-harm clinical guidelines and practice policies should be general practice specific and co-produced with primary care staff, patients, and the public.(29, 30, 33, 46)

Primary care networks should incorporate these guidelines and policies into wider suicide prevention strategies and pilot and evaluate, in partnership with relevant third-sector organisations, integrated evidence-informed primary care self-harm models and services.(13, 14, 47) For GPs to assess, treat, refer, and support patients who self-harm in primary care; improved communication on patient management with secondary care services, the development of effective GP-led brief interventions, and the integration of evidence-based primary care self-harm models are all fundamental.

**Funding:**

This manuscript presents independent research supported by FM’s National Institute for Health Research (NIHR) In-Practice Fellowship (IPF-2017-11-002).

IT is funded by a Keele University ACORN studentship. LD was awarded a Senior Fellowship by the Higher Education Academy.

CCG is part funded by West Midlands Collaboration for Leadership in Applied Health Research and Care.

The views expressed in this paper are those of the authors and not necessarily those of the NHS, NIHR, or the Department of Health and Social Care.

**Ethical approval:**

Ethical approval was not sought however this study adheres to the ethical standards set by the Declaration of Helsinki.

**Competing interests**

FM is the RCGP Clinical Fellow in Mental Health, Clinical Innovation and Research Centre, RCGP, and has authored RCGP TopTips for GPs on self-harm and suicide in young people.

CCG is chair of the RCGP Scientific Foundation Board and RCGP Curriculum Advisor, Mental Health. CCG is Chair of the Society for Academic Primary Care.

**Acknowledgements**

We wish to thank Buddhika Fernando and Nadia Samuelsson for assistance in translation of studies and the study authors who responded to individual data requests.

We thank Jennie Popay and colleagues for their guidance on the conduct of narrative synthesis in systematic reviews.

**References**

1. Mars B, Heron J, Crane C, et al. Clinical and social outcomes of adolescent self harm: population based birth cohort study. BMJ. 2014;349:g5954.

2. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH). Suicide by children and young people,. Manchester: University of Manchester; 2017.

3. Clements C, Hawton K, Guelayov G, et al. Self-harm in midlife: analysis using data from the Multicentre Stufy of Self-harm in England. Br J Psychiatry. 2019.

4. Morgan C, Webb RT, Carr MJ, et al. Self-harm in a primary care cohort of older people: incidence, clinical management, and risk of suicide and other causes of death. Lancet Psychiatry. 2018;5(11):905-12.

5. Carr MJ, Ashcroft DM, Kontopantelis E, et al. The epidemiology of self-harm in a UK-wide primary care patient cohort, 2001–2013. BMC Psychiatry. 2016;16(1):53.

6. Morgan C, Webb RT, Carr MJ, et al. Incidence, clinical management, and mortality risk following self harm among children and adolescents: cohort study in primary care. BMJ. 2017;359:j4351.

7. Hawton K, Bergen H, Casey D, et al. Self-harm in England: a tale of three cities. Multicentre study of self-harm. Soc Psychiatry Psychiatr Epidemiol. 2007;42(7):513-21.

8. Geulayov G, Casey D, McDonald KC, et al. Incidence of suicide, hospital-presenting non-fatal self-harm, and community-occurring non-fatal self-harm in adolescents in England (the iceberg model of self-harm): a retrospective study. Lancet Psychiatry. 2018;5(2):167-74.

9. Hawton K, Saunders KE, O'Connor RC. Self-harm and suicide in adolescents. Lancet. 2012;379(9834):2373-82.

10. National Institute For Health and Care Excellence. Self-harm in over 8s: short-term management and prevention of recurrence CG16 London, UK2004 [Available from: <https://www.nice.org.uk/guidance/CG16/chapter/1-Guidance#the-management-of-self-harm-in-primary-care> Accessed May 31 2019.

11. NHS England. Suicide prevention and reduction 2018 [Available from: <https://www.england.nhs.uk/2018/05/suicide-prevention-and-reduction/> Accessed 31 May 2019.

12. PM Pledges action on suicide to mark World Mental Health Day [press release]. 2018.

13. HM Government. Preventing suicide in England: Third progress report of the cross-government outcomes strategy to save lives.; 2017.

14. National Health Service. The NHS Long Term Plan. 2019.

15. Houston K, Haw C, Townsend E, et al. General practitioner contacts with patients before and after deliberate self harm. Br J Gen Pract. 2003;53(490):365-70.

16. Mughal F, Troya I, Dikomitis L, et al. The role of the General Practitioner in the management of patients with self-harm behaviour in primary care PROSPERO CRD420180847032018 [Available from: <http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42018084703> Accessed 31 May 2019.

17. Moher D, Liberati A, Tetzlaff J, et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med. 2009;6(7):e1000097.

18. Hawton K, Witt KG, Taylor Salisbury TL, et al. Interventions for self-harm in children and adolescents. Cochrane Database Syst Rev. 2015(12):Cd012013.

19. : Oxford University Press; 2019. Oxford Dictionaries.

20. Souto RQ, Khanassov V, Hong QN, et al. Systematic mixed studies reviews: updating results on the reliability and efficiency of the Mixed Methods Appraisal Tool. Int J Nurs Stud. 2015;52(1):500-1.

21. Popay J RH, Sowden A, Petticrew M, Arai L, Rodgers M, Britten N. . Guidance on the Conduct of Narrative Synthesis in Systematic Reviews. A Product from the ESRC Methods Programme; 2006.

22. Chandler A, King C, Burton C, et al. General Practitioners' Accounts of Patients Who Have Self-Harmed: A Qualitative, Observational Study. Crisis. 2016;37(1):42-50.

23. Crawford M, Wessely S. The management of patients following deliberate self harm - what happens to those discharged from hospital to GP care? Primary Care Psychiatry. 2000;6(2).

24. Le Pont F, Letrilliart L, Massari V, et al. Suicide and attempted suicide in France: results of a general practice sentinel network, 1999-2001. Br J Gen Pract. 2004;54(501):282-4.

25. Fox F, Stallard P, Cooney G. GPs role identifying young people who self-harm: a mixed methods study. Fam Pract. 2015;32(4):415-9.

26. Grimholt TK, Haavet OR, Jacobsen D, et al. Perceived competence and attitudes towards patients with suicidal behaviour: a survey of general practitioners, psychiatrists and internists. BMC Health Serv Res. 2014;14:208.

27. Fitzsimons MM, Kelleher MJ, Keeley HS, et al. Parasuicide and general practice: a pilot study. Ir Med J. 1997;90(5):190, 2.

28. Michail M, Tait L. Exploring general practitioners’ views and experiences on suicide risk assessment and management of young people in primary care: a qualitative study in the UK. BMJ Open. 2016;6(1):e009654.

29. Prasad LR, Gantley MM, Underwood MR. Management of deliberate self harm in general practice: a qualitative study. Br J Gen Pract. 1999;49(446):721-4.

30. Saini P, Windfuhr K, Pearson A, et al. Suicide prevention in primary care: General practitioners' views on service availability. BMC Res Notes. 2010;3:246.

31. Saini P, Chantler K, Kapur N. General practitioners' perspectives on primary care consultations for suicidal patients. Health Soc Care Community. 2016;24(3):260-9.

32. Slaven J, Kisely S. Staff perceptions of care for deliberate self-harm patients in rural Western Australia: a qualitative study. Aust J Rural Health. 2002;10(5):233-8.

33. Taliaferro LA, Muehlenkamp JJ, Hetler J, et al. Nonsuicidal Self-Injury among Adolescents: A Training Priority for Primary Care Providers. Suicide Life Threat Behav. 2013;43(3):250-61.

34. Lefebvre C, Manheimer E, Glanville J, et al. Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. In: Higgins J, Green S, editors.: The Cochrane Collaboration; 2011.

35. Ahmed I, Sutton AJ, Riley RD. Assessment of publication bias, selection bias, and unavailable data in meta-analyses using individual participant data: a database survey. BMJ. 2012;344:d7762.

36. Royal College of General Practitioners. Guidance on the content of speciality training programmes in general practice intended to lead to the award of CCT. 2019.

37. Wand AP, Peisah C, Draper B, et al. How do general practitioners conceptualise self-harm in their older patients? A qualitative study. Aust J Gen Pract. 2018;47(3):146-51.

38. Appleby L, Morriss R, Gask L, et al. An educational intervention for front-line health professionals in the assessment and management of suicidal patients (The STORM Project). Psychol Med. 2000;30(4):805-12.

39. Morriss R, Gask L, Webb R, et al. The effects on suicide rates of an educational intervention for front-line health professionals with suicidal patients (the STORM Project). Psychol Med. 2005;35(7):957-60.

40. Milner A, Witt K, Pirkis J, et al. The effectiveness of suicide prevention delivered by GPs: A systematic review and meta-analysis. J Affect Disord. 2017;210:294-302.

41. Kapur N, Cooper J, O'Connor RC, et al. Non-suicidal self-injury v. attempted suicide: new diagnosis or false dichotomy? Br J Psychiatry. 2013;202(5):326-8.

42. Steeg S, Quinlivan L, Nowland R, et al. Accuracy of risk scales for predicting repeat self-harm and suicide: a multicentre, population-level cohort study using routine clinical data. BMC Psychiatry. 2018;18(1):113.

43. Quinlivan L, Steeg S, Elvidge J, et al. Risk assessment scales to predict risk of hospital treated repeat self-harm: A cost-effectiveness modelling analysis. J Affect Disord. 2019;249:208-15.

44. Mughal F, Babatunde O, Dikomitis L, et al. Self-harm in young people: the exceptional potential of the general practice consultation. Br J Gen Pract. 2019;69(681):168-9.

45. National Collaborating Centre for Mental Health. Self-harm and Suicide Prevention Competence Framework: Adults and Older Adults. 2018.

46. Hickey G, Brearley S, Coldham T, et al. Guidance on co-producing a research project. INVOLVE. 2018.

47. World Health Organisation. Preventing suicide: A global imperative. 2014.

**Supplement 1: MEDLINE (OVID) search strategy**

|  |  |  |
| --- | --- | --- |
| **#** | **Searches** | **Results** |
| 1 | exp Self-Injurious Behavior/ | 62562 |
| 2 | exp Poisoning/ | 147581 |
| 3 | exp Self Mutilation/ | 3143 |
| 4 | exp Drug Overdose/ | 9415 |
| 5 | exp Suicide/ or exp Suicidal Ideation/ or exp Suicide, Attempted/ | 55669 |
| 6 | self harm\*.ti,ab. | 3469 |
| 7 | headbang\*.ti,ab. | 32 |
| 8 | head bang\*.ti,ab. | 121 |
| 9 | self injur\*.ti,ab. | 3214 |
| 10 | self destruct\*.ti,ab. | 1568 |
| 11 | overdos\*.ti,ab. | 16751 |
| 12 | self mutilat\*.ti,ab. | 1440 |
| 13 | self inflict\*.ti,ab. | 1787 |
| 14 | self poison\*.ti,ab. | 1519 |
| 15 | parasuicid\*.ti,ab. | 590 |
| 16 | ((self or themself or themselv\*) adj3 cut\*).ti,ab. | 570 |
| 17 | or/1-16 | 226062 |
| 18 | (family adj3 (physician\* or doctor\* or practitioner\* or specialist\*)).ti,ab. | 19878 |
| 19 | GP.ti,ab. | 31916 |
| 20 | general practitioner\*.ti,ab. | 40556 |
| 21 | (general practice adj3 (doctor\* or practitioner\* or physician\* or specialist\*)).ti,ab. | 815 |
| 22 | (primary care adj3 (doctor\* or practitioner\* or specialist\* or physician\*)).ti,ab. | 19684 |
| 23 | exp General Practitioners/ | 5879 |
| 24 | exp Physicians, Family/ | 15721 |
| 25 | exp Physicians, Primary Care/ | 2460 |
| 26 | or/18-25 | 109933 |
| 27 | 17 and 26 | 1345 |

**Table 1a: Inclusion criteria adopted in this review**

|  |  |
| --- | --- |
| **Population (s) and condition of interest** | **Population:** GPs, family medicine doctors, family physicians, primary care physicians**Condition of interest:** Self-harm (SH), non-suicidal SH, deliberate SH, suicidal attempt/behaviour, parasuicide, suicidal ideation |
| **Intervention(s)/Exposure** | Patients of all ages who have self-harmed or have self-harm thoughts |
| **Comparators** | None  |
| **Outcome** | i) Knowledge, attitudes, and behaviours of GPs in consultation assessment, diagnosis, treatment, risk assessment, referral, and follow up of patients who SH ii) Facilitating factors for GP management of people who SHiii) Identified barriers for GP management of people who SHiv) Outcome of GP consultations for SH: referral, follow up pattern, and consultation length |
| **Setting** | International primary care |
| **Study designs** | Mixed methods, observational, qualitative |

**Table 1b: Exclusion criteria adopted in this review**

|  |  |
| --- | --- |
| **Exclusion criteria** | Non-English studies where translation could not be obtainedStudies only reporting outcomes on: ‘Assisted suicide’, ‘suicidal ideation’, and ‘suicide’Studies that were randomised controlled trials Studies without doctors in ‘practitioner’ roleStudies where medical students were in the ‘practitioner’ role  |

**Figure 1: PRISMA Flow Diagram**

Full-text articles assessed for eligibility
(n = 46)

Records excluded
(n = 6,930)

Titles/Abstracts screened
(n = 6,976)

## Identification

## Eligibility

## Screening

Full-text articles excluded, with reasons
(n = 35)

* Non-research articles (n = 6)
* PhD theses unattainable (n = 2)
* No GP/family medicine/primary care doctors (n = 7)
* Self-harm not reported (n = 16)
* Inappropriate outcome measure (n = 4)

## Included

Records identified through database searching
(n = 7,111)

Studies identified in hand searching of references
(n = 1)

Studies included in synthesis
(n = 12)

Records after duplicates removed
(n = 6,976)

Studies eligible for inclusion
(n = 11)

**Table 2: Characteristics of included studies**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Study ID** | **Study design** | **Location** | **Clinician type** | **Clinician number** | **Clinician gender (M:F ratio)** | **Age range** |
| Chandler et al, 2016 21 | Qualitative | Scotland | GPs | 30 | 16:14 | N/A |
| Crawford and Wessely, 2000 22 | Cohort | England | GPs | N/A | N/A | N/A |
| Le Pont F et al, 2004 23 | Retrospective network | France | GPs | N/A | N/A | N/A |
| Fitzsimons et al, 1997 26 | Cross-sectional | Ireland | GPs | 133 | N/A | N/A |
| Fox et al, 2015 24 | Mixed-methods | England | GPs | 28 | N/A | 20-60 |
| Grimholt et al, 2014 25 | Cross-sectional | Norway | GPs | 91 | 60:31 | 30->60 |
| Michail and Tait, 2016 27 | Qualitative | England | GPs | 28 | 9:15\* | 25-55 |
| Prasad et al, 1999 28 | Qualitative | England | GPs | 14 | 8:6 | 34-63 |
| Saini et al, 2010 29 | Mixed-methods | England | GPs | 159 | 116:43 | 31-67 |
| Saini et al, 2016 30 | Qualitative | England | GPs | 39 | 28:11 | N/A |
| Slaven and Kisely, 2002 31 | Qualitative | Australia | GPs | 7 | N/A | N/A |
| Taliaferro et al, 2013 32 | Cross-sectional | USA | Family medicine physician | 260 | 133:126\* | N/A |

GP – General practitioner, M:F – male:female, N/A – not applicable, USA – United States of America, \* - represents number of completed responses on particular item

**Table 3: Clinician knowledge, attitudes, and behaviours across studies**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Across studies*** | **Clinician knowledge** | **Clinician attitudes** | **Clinician behaviours** |
| **Similarities** | Less self-harm training provided in comparison to general mental health, evidenced by only 39% of GPs receiving suicidal behaviour training in the previous 5 years.25,29 | Self-harm a ‘cry for help’ and an attention seeking behaviour.21,27, 30GPs want patients who self-harm to access mental health assessment.26,28Want to help patients who self-harm and see themselves as a frontline service for young people who self-harm.24,25 Lack confidence assessing and talking to patients who self-harm, including young people.21,24,32Feel self-harm is on a ‘spectrum of risk’ for suicide.,21, 24Use ‘gut feeling’ and instinct to manage risk with self-harm in adults and young people.21,27  | Most refer patients with self-harm to hospital setting (mental health, A&E, ABC).22,23,26Patients with self-harm are also managed in primary care.21,22,24,26 |
| **Differences** | In young people there is uncertainty in establishing the severity of self-harm and future risk of self-harm.27 GPs are aware risk of suicide greater in those who self-harm.21  | Self-harm in young people as a coping strategy.24Few self-harm primary care services.29Feel hospital admission reinforces self-harm behaviour.31Self-harm common in older adolescents, linked to social problems, should not be ignored, and should be acknowledged for both young person and parent/carer.24Concerns over conflict with parents of young people and in alienating young person.24Difficult assessing suicide risk in patients who had self-harmed and in establishing suicidal intent according to patient demographic.21 | Don’t always intervene and shares responsibility on patient safety with patient.21Exhibit uncertainty when managing young people.27Ask direct questions with young people in lay terms whilst wanting to build rapport. Concerns over maturity of young people and signpost to services and offer GP follow-up.24Lack of coding self-harm on electronic records.28Prescribe medication and undertake psychosocial intervention after self-harm.19 More likely to intervene if documented suicidal ideation/behaviour.22In rural settings, referral influenced by service provision.31 |

A&E – Accident and Emergency, ABC – Ambulatory Care

**Table 4: MMAT results for included studies**

|  |  |  |
| --- | --- | --- |
| **Study ID** | **MMAT score (%)** | **Reasons for not scoring maximum** |
| Chandler et al, 2016 21 | 75% | Researcher reflexivity not reported |
| Crawford and Wessely, 2000 22 | 75% | Incomplete outcome data |
| Le Pont F et al, 2004 23 | 100% |  |
| Fitzsimons et al, 1997 26 | 25% | Pilot study, validity and items of questionnaire, and GP demographics not reported. |
| Fox et al, 2015 24 | 75% | Low response rate in survey and researcher reflexivity not reported |
| Grimholt et al, 2014 25 | 75% | Low response rate in survey |
| Michail and Tait, 2016 27 | 100% |  |
| Prasad et al, 1999 28 | 100% |  |
| Saini et al, 2010 29 | 25% | Poor reporting of outcomes and sample not representative |
| Saini et al, 2016 30 | 75% | Researcher reflexivity not reported |
| Slaven and Kisely, 200231 | 75% | Researcher reflexivity not reported |
| Taliaferro et al, 201332 | 25% | Survey not validated, low response rate, and unrepresentative sample |