Factors within the clinical encounter that impact upon risk assessment within child and adolescent mental health services: a rapid realist synthesis

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Scientific summary

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Scientific summary

Background

Risk assessment occupies a central place in the management of children and adolescents who present to acute paediatric care settings at risk for self-harm and suicide. A risk assessment should be included within a detailed clinical assessment that includes evaluation of biological, social and psychological factors that are relevant to the child/adolescent. However, current National Institute for Health and Care Excellence (NICE) guidance cautions against using tools or checklists to predict the risk of suicide (risk screening) and against using risk-screening tools to determine subsequent clinical management. Current guidelines for self-harm (NICE. Self-harm: assessment, management and preventing recurrence NICE guideline [NG225] London: 2022) require a risk formulation as part of every psychosocial assessment, to be conducted a mental health professional who has received training in conducting psychosocial assessments and risk formulation. By gaining an accurate picture of the circumstances of a child or adolescent a mental health professional can target a future pathway to appropriate intervention and treatment. However, evidence from surveys suggests that risk assessment continues to serve its historic functions of protecting the community and avoiding claims of negligence rather than being grounded in the welfare of the child/adolescent. As a consequence risk assessment is not currently harnessing its full potential as an intervention to prevent self-harm and suicide. Numerous risk-assessment tools, including some risk-screening tools, are used across different services and information is neither gathered consistently nor completely. In some cases risk-screening tools are viewed as a tick-box exercise or even used for purposes for which the available tools or checklists are not designed. The focus of this review is on the well-being of the children or adolescents themselves and not on the actuarial function of managing risk of harm to others.

Despite extensive numbers of tools and approaches, the relationship between risk assessment for self-harm and suicide and treatment intervention and outcome remains unclear. Uncertainties remain, especially around ‘what works, for whom, and why?’

Aims

To map the research literature relating to risk assessment for child and adolescent mental health and then to explore published and ‘grey’ literature through a resource-constrained realist-informed review,

Objectives

To understand the underlying mechanisms for risk assessment for self-harm and suicide, why they occur and how they vary by context and then to review risk-screening tools currently in use in the UK and similar contexts and to explore how different approaches to using these tools impact upon risk assessment for self-harm and suicide within child and adolescent mental health services (CAMHS).

Methods

Two complementary reviews were conducted: (1) a realist synthesis; and (2) a mapping review of risk-screening tools and risk-assessment approaches (PROSPERO database registration number: CRD42021276671).

Realist synthesis

Data sources

MEDLINE (including Epub Ahead of Print & In-Process), PsycINFO, EMBASE, CINAHL, HMIC, Science and Social Sciences Citation Index and the Cochrane Library. Importantly, the electronic search was complemented by innovative use of the scite tool as well as forward citation searching via Google Scholar and checking for additional relevant articles from reference lists.

Screening criteria and study selection

Studies that describe the procedures, format and clinical, patient and family perspectives of the risk-assessment process for self-harm and suicide within a UK setting were identified by the review team and prioritised for analysis. Following piloting of eligibility criteria within the team, titles/abstracts were initially screened by one of the review team. Articles identified as potentially relevant were obtained in full text. Attempts were made to identify unpublished literature, for example guidelines and public reports. The full-text literature was screened independently by a single reviewer. Screening was initially inclusive; to minimise threats posed by use of a single reviewer.

Assessment of rigour, relevance and richness

In line with realist methodology no formal attempt was made to assess the individual study quality of papers included in the synthesis. No papers were excluded on the basis of study quality. Assessment of rigour was determined by study design with weight being placed upon systematic reviews and good-quality comparative research designs. Additional quality markers comprised relevance: privileging studies conducted within child and adolescent mental health; and richness: according detail provided about the risk-assessment process. See *Appendix 3* for included papers.

Study characteristics

The electronic search strategy identified 4084 unique references. Screening based on titles/abstracts identified 149 articles for full-text screening. Screening of full-text articles identified 29 papers to be included in the review. An additional 28 papers were identified through backwards and forwards citation searching, with 57 papers included in the final realist synthesis.

Data extraction

Study details (including aim, methodology, findings and implications) were extracted by a single reviewer. Details were then mapped against the 14 programme theories.

Data synthesis

Data were synthesised using a realist synthesis approach. One member of the review team independently generated programme theories from a survey of clinical risk assessment across the UK. Candidate programme theories were considered by the full review team before being completed and finalised. The lead reviewer then used references identified by the team, supplemented by purposive searching and follow-up of references to locate evidence to support, counter or extend the initial interpretations. The 14 programme theories were confirmed as valid propositions and combined within an overarching programme theory.

Mapping review

Screening criteria

The mapping review used the following inclusion criteria:

- *Population and setting*: children or adolescents of 18 years of age or younger considered at risk for self-harm or suicide in the UK. Inclusion was unrestricted by setting.

- *Index (or focal) approach or tool*: either an overall approach or specific tool used to undertake a detailed clinical assessment; to include evaluation of biological, social and psychological factors relevant to the child/adolescent and relevant to future risks, limited to suicide and self-harm (risk assessment).
- *Comparator approach or tool*: any other approach or tool.
- *Outcomes*: test performance (sensitivity, specificity, positive predictive value, negative predictive value, reliability, validity), utility and acceptability.
- *Study design*: any empirical design. Reviews, systematic or quasi-systematic.

Data sources

A comprehensive search of MEDLINE, PsycINFO, EMBASE, CINAHL, HMIC, Science and Social Sciences Citation Index and the Cochrane Library was conducted in September 2021. Targeted 'grey' literature searches to identify reports/case studies in websites.

Study selection

Relevant empirical studies and systematic reviews were identified and screened by single review from one of the team to identify reports of approaches and tests used in a UK context for risk assessment for self-harm and suicide.

Study characteristics

From 4996 citations limited to the UK, 912 duplicates were removed leaving 4084 unique citations. In total, 249 papers were reviewed at full-text and 41 studies were included in the mapping review. For the mapping of reviews 1743 citations were identified; 499 duplicates were removed leaving 1244 unique review citations. Following full-text screening 8 reviews remained.

Data extraction and quality assessment

Secondary data were extracted on study and population characteristics, tool details and methods of evaluation. No data were available on the resource implications of use of tools or approaches. However, mention was made of the prohibitive time required to conduct a thorough biopsychosocial assessment within the context of an emergency or crisis.

Quality appraisal was conducted independently using the Mixed Methods Appraisal Tool (MMAT) tool, and disagreements were resolved through discussion.

Data synthesis

Findings from the mapping review of tools and approaches were presented using narrative synthesis, using textual and tabular presentation. Studies were not sufficiently homogeneous to permit meta-analysis.

Public and patient involvement

The research team worked with the standing public and patient advisory group for the Sheffield Evidence Synthesis Centre. The group regularly feeds into the conduct and dissemination of evidence syntheses commissioned by the National Institute for Health Research, providing perspectives on contextual factors and key messages to ensure benefit and relevance for service users.

Results

Results from the realist synthesis

Fourteen programme theories were identified and tested. These included 11 propositions relating to the conduct of risk assessment for self-harm and suicide and a further three propositions relating to what is considered unhelpful.

CANDIDATE PROGRAMME THEORY COMPONENTS IDENTIFIED FROM THE LITERATURE

Through this preliminary review, successful interventions are considered to require the following:

1. IF risk-assessment approaches are simple, accessible and part of a wider assessment process THEN staff are able to generate standardised, informative and clinically useful assessments LEADING TO appropriate use of support and services.
2. IF clinical staff focus clinical risk-assessment processes on building relationships THEN clinicians and adolescents trust each other LEADING TO frank and open communication within the clinical encounter.
3. IF the emphasis of clinical risk-assessment processes is on gathering good-quality information on (i) the current situation, (ii) past history and (iii) social factors THEN staff use information to inform a collaborative approach to management LEADING TO coordinated and integrated care.
4. IF staff are comfortable asking young patients about suicidal thoughts THEN young service users share relevant information concerning their circumstances LEADING TO an appropriate service response.
5. IF risk-assessment processes are conducted consistently across mental health services THEN the quality of response to young service users does not depend upon each individual contact LEADING TO the availability of consistent information across services.
6. IF staff are trained in how to assess, formulate and manage risk, including appropriate referral THEN staff feel equipped to manage the risks for children and adolescents who present to health services LEADING TO an emphasis on positive risk taking.
7. IF staff are supported by on-going supervision THEN staff feel able to deliver a consistent approach to risk assessment LEADING TO a reduction in adverse events.
8. IF families and carers are involved in the assessment process THEN families and carers are given an opportunity to express their views on potential risk LEADING TO a collaboratively developed risk-management plan.
9. IF mental health staff communicate risk assessments with primary care THEN young people are directed to appropriate care LEADING TO successful health outcomes.
10. IF the management of risk is personal and individualised THEN young people don't see their care as 'protocol driven' and won't feel alienated LEADING TO their engagement with care.
11. IF organisations involved in risk assessment utilise a whole-system approach THEN this strengthens the standards of care for everyone, LEADING TO the safe management of supervision, delegation and onward referral.

Three 'counter programme theories' relate to how risk assessment might result in unintended consequences:

12. IF staff view risk-assessment tools as a way of predicting future suicidal behaviour THEN staff incorrectly interpret individual levels of need for care LEADING TO inappropriate use of restrictive practices, such as involuntary hospitalisation, restraint, sedation and seclusion (for the service user).
13. IF clinicians use risk-screening tools and scales in isolation within the risk-assessment process THEN treatment decisions are determined by a score LEADING TO incorrect interpretation of individual need for care and inappropriate utilisation of CAMHS (for the service).
14. IF staff develop tools for risk assessment locally THEN checklists and scales lack formal psychometric evaluation LEADING TO limited clinical utility of tools for risk assessment and unnecessarily restrictive treatment options.

Exploring the 11 positive propositions helped in the identification of five particularly useful features include the following: (1) incorporation of tools within wider standardised and consistent assessment processes; (2) trusted relationships that encourage clear and open communication, including family involvement; (3) good-quality information within a personalised and individualised approach; (4) appropriate training and supervision; and (5) appropriate interagency communication and referral networks, within a whole-system approach. Similarly exploration of the three negative propositions helped in the identification of three negative features: (1) misuse of risk-assessment tools for prediction; (2) use of tools in isolation, typically within a 'scoring' approach; and (3) development of local tools with little formal validation.

Results from the mapping review

A total of 49 reports of tools or approaches to assessing the risk of self-harm and suicidality among children or adolescents were identified from the reviews (n = 8) or original studies (n = 41). Our analysis extended the 29 assessment tools included in a previous scoping review (Carter T, Walker GM, Aubeeluck A, Manning JC. Assessment tools of immediate risk of self-harm and suicide in children and young people: a scoping review. *J Child Health Care* 2019;**23**:178–99.); adding two recent tools (Manning JC, Walker GM, Carter T, Aubeeluck A, Witchell M, Coad J; The CYP-MH SAT study group. Children and Young People-Mental Health Safety Assessment Tool (CYP-MH SAT) study: protocol for the development and psychometric evaluation of an assessment tool to identify immediate risk of self-harm and suicide in children and young people (10-19 years) in acute paediatric hospital settings. *BMJ Open* 2018;**8**:e020964. 20180412; Vrouva I, Fonagy P, Fearon PR, Roussow T. The risk-taking and self-harm inventory for adolescents: development and psychometric evaluation. *Psychol Assess* 2010;**22**:852–65.) and expanding beyond formal tools to include overall approaches. We included tools previously included

in the scoping review (Carter *et al.* 2019) where used in a UK context and with a primary focus on suicide. Tools varied in length, response and scoring format, age ranges and degree of psychometric testing (Carter *et al.* 2019). In particular, tools lacked predictive validity. Most assessments were tested across broad age ranges, and so lack sensitivity to the age groups of particular interest to this review. The relative lack of tools for children, as opposed to adolescents, is noticeable. Tools were subject to limited psychometric testing, and no single tool was valid or reliable for use with children presenting in mental health crisis to non-mental health settings (Carter *et al.* 2019).

Implications for healthcare practice and service delivery

- A thorough biopsychosocial assessment offers a holistic approach to assessment across many factors including, but not focused upon, risk of self-harm and suicide. Such an assessment requires that service managers identify time for this interaction, particularly for front-line staff.
- Checklists may help in demonstrating compliance with national standards and protocols but, ultimately, may threaten the relationship between health professional and young person or obscure a full understanding of patient risk.
- Findings from these reviews confirm recommendations made by NICE guidance with regard to the misuse of risk-assessment tools for prediction of suicide risk and for determining clinical management.
- Variability in suicidality, even over short periods of time, make suicide risk prediction particularly problematic. Checklist approaches are static, not dynamic, and therefore unlikely to meet the needs for ongoing risk assessment. Attention should focus on improving the quality of the risk-assessment process, perhaps learning from successful training, supervision and quality improvement initiatives.

Recommendations for research

- Further studies evaluating the utility of specific risk-screening tools and instruments are not warranted, although additional evaluations of risk-assessment processes would benefit from further qualitative insights. Such evaluations could provide an accurate picture of what assessment processes are being used and the clinical value ascribed to each component according to the principles of psychosocial assessment.
- Further research is required to evaluate the value to young persons, health professionals and health services of a complete and holistic assessment, not simply provision of an alternative tool. An evaluated approach to overall assessment could then be used to support safety management decisions across acute paediatric care settings.
- In particular, health systems and organisational leadership initiatives could benefit from further close examination of how theoretical tensions between risk minimisation and patient-centred care are enacted at a practical and operational level.

Trial registration

This study is registered as PROSPERO CRD42021276671.

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This manuscript

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