

BMJ Open Suicidal behaviours and moderator support in online health communities: a scoping review

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ABSTRACT

Objectives Online support can be a crucial source of support for individuals experiencing suicidal behaviours, with forum moderators being pivotal in terms of the role they play in times of personal mental health emergencies. This study identified what is empirically known about the professional practices of health professionals who are online mental health forum moderators and provide support to individuals experiencing suicidal behaviours.

Design The Levac, Colquhoun and O'Brien extension of the Arksey and O'Malley scoping review framework was used.

Search strategy The Psychology Collection (EBSCO), PsycINFO (EBSCO), Web of Science, Taylor and Francis Online, SAGE Journals and Science Direct databases were searched for articles that featured a result relating to an online forum; included participants who worked as online moderators or facilitators and focused on suicide or self-harm. Results were limited to peer-reviewed articles published in English from 1990 onwards. As a quality assurance measure, grey literature (nonacademic literature) was not included. Reference lists of included articles were hand-searched.

Results There were 397 articles initially identified after applying inclusion and exclusion criteria, with five articles included for synthesis. All articles received a moderate quality rating. Only one article featured a moderator who was a qualified health professional; the moderators in the remaining articles were volunteers who undertook preservice training. We found that there is little research that examines the professional working practices of online moderators who support individuals experiencing suicidal behaviours.

Conclusions The dearth of research focusing on the professional practices of online forum moderators is cause for concern given that individuals experiencing suicidal behaviours are increasingly turning to online forums when in crisis. Future research should focus on online moderators' practice through interviewing moderators about their professional practices and by examining online moderator practice as it occurs in situ.

INTRODUCTION

Individuals are increasingly turning to online forums to seek help for mental health concerns including suicidal behaviours.^{1 2} Examples of mental health forums include

Strengths and limitations of this study

- An established scoping review methodology was used.
- A rigorous search strategy and systematic study selection was carried out by two researchers.
- A quality assessment was undertaken to identify and synthesise knowledge in this area.
- Search criteria were limited to peer-reviewed articles and articles published in English or translated into English.
- Grey literature (nonacademic literature) was excluded.

Togetherall (UK), SANE (Australia) and Kooth (USA). The growing popularity of online forums has been attributed to the ease with which information, advice and support can be accessed.³⁻⁵ This ease of access, combined with anonymity, can be especially important for individuals experiencing suicidal behaviours; a population that is less likely to seek professional face-to-face support^{2 6-8} due to issues such as the stigma that still surrounds suicide.² This reluctance is problematic due to the risk of serious harm or death that is associated with suicidal behaviours.^{9 10}

Recent research framed within the suicide ideation to action framework¹¹ distinguishes between the separate, yet connected constructs of suicidal ideation, behaviours and suicide. Suicidal ideation refers to the thoughts of killing oneself and can range from fleeting thoughts to detailed plans.¹ Suicidal behaviours refer to the deliberate and intentional acts to kill oneself¹² and suicide is when intentional and self-inflicted death occurs.² These constructs are separate in that individuals can experience suicidal thoughts without engaging in suicidal behaviours, or attempting, and dying by suicide. Although previous suicide attempts are the strongest predictor of future suicide



attempts¹³ and death by suicide, some suicidal individuals can hold a range of intentions at one time. These intentions can potentially shift throughout a suicidal event, with ambivalence experienced as to the outcome of acts where death is a possibility.¹⁴ A further related concept is nonsuicidal self-injury (NSSI), which refers to acts of deliberate self-injury without the intent to die; however, research posits that NSSI can provide emotional relief, which may enable the individual, through increased capability, to inflict more serious self-injury (or attempt suicide) in the future.¹⁵ It is for this reason that NSSI can be viewed as a risk factor for suicidal behaviours.

Some individuals who experience suicidal behaviours engage in online mental health forums for information and support. Online mental health forums are virtual communities where members can interact with one another by asynchronously posting and responding to messages.^{16 17} These forums can be open and visible to all internet users or closed and limited to select membership populations with online support forums being accessed by millions of people each day.¹⁸ Research suggests that 20% of online users in the USA and 10% of users in the UK regularly use online mental health forums.¹⁹ While there are no suicide-specific usage data figures that we could locate, in terms of general mental health forum, there has been a noted increase in use, evident in online help seeking for mental health becoming frequent enough for study via large sample national surveys.²⁰

Support in online forums can be provided by peers or those in formal moderator roles.²¹ Online mental health moderators, hereafter referred to as moderators, are concerned with the safety of members and the forum as a whole and will intervene and interact with members as necessary to ensure that the forum remains a safe space.²² Moderators generally oversee content posted by members to ensure compliance with the forum rules.²³ Specific tasks may include welcoming new members, editing content that contravenes the forum rules, and for some forums, supporting members in crisis.²⁴ Moderators may be unqualified individuals, often with lived experience of mental illness, who are working in a paid or voluntary capacity, or professionally qualified and employed health workers.⁴

There is a body of evidence that reports both benefits and risks associated with talking about suicide on mental health focused online forums. Benefits include reducing stigma and increasing self-disclosure,² and possible risks include suicide contagion in others and the promotion of suicide.²⁵ Despite these identified benefits of online help seeking, there has been no synthesis of research focusing on the professional practices of moderators in supporting individuals. Here, professional practices pertain to the work and conduct of the moderator that ensures the safety of forum members and those at risk of suicidal behaviours. Without such a synthesis, the field risks engaging in research that reproduces rather than advances understandings of online moderator work

practices, thereby potentially overlooking opportunities to inform practice recommendations.

A scoping literature review was, therefore, undertaken to identify what research has been conducted on health professionals working as online moderators who engage with, and offer support to, community members experiencing suicidal behaviours. The review sought to map research approaches, limitations and gaps to guide future research.

METHODS

The scoping review protocol as specified by Perry *et al*¹¹ was used in this study. It followed the six-stage scoping review methodology proposed by Arksey and O'Malley,²⁶ and further developed by Levac *et al*²⁷ and the Joanna Briggs Institute (JBI).²⁸ The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) reporting guidelines were used.²⁹

Stage 1: identifying the question

Using the broad population–concept–context mnemonic,²⁸ initially online moderators with a health qualification were the population. Pilot literature searches yielded only one article that met this definition; hence, the population was broadened to focus on moderators who had received some form of moderator training (ie, external or in house). Given that a scoping review is broad in nature, this change was viewed as consistent with this approach and also with the underlying intent of the study to understand the professional practices of moderators who have training in providing support online. This change is also reflective of the iterative process of scoping reviews.³⁰

The revised concept focused on moderators who had received some form of moderator training and worked as moderators of online mental health forums where members post about suicidal behaviours, self-harm and NSSI. No geographical limitations were placed on the literature as suicidal behaviours are a global concern.¹⁰

The scoping questions were:

1. What do we know from the existing literature about trained online mental health moderators who work with suicidal community members?
2. What methodologies have been used to gain this knowledge?
3. What are the limitations of this research?
4. What are the research gaps?

Stage 2: identifying relevant studies

The following electronic databases were selected and searched on the 3 March 2019 in order to ensure a comprehensive search of the health sciences literature as recommended by the university research librarian:

- CINAHL with full text, PsycINFO, PsycArticles, Psychology and Behavioral Sciences Collection, Academic Search Ultimate, Health Source: Nursing/

Table 1 Database-specific search strings and limiters

Database	Search string	Limiters
EBSCOhost (CINAHL with full text, PsychINFO, PsychArticles, Psychology and Behavioral Sciences Collection, Academic Search Ultimate, Health Source: Nursing/Academic Edition and Sociology Source Ultimate)	("online community" OR "online health community" OR "online forum") AND moderator OR facilitator AND suicid* OR self harm OR NSSI	Published date >1990 Language: English
ScienceDirect	("online community" OR "online health community" OR "online forum") AND (moderator OR facilitator) AND ("suicidal ideation" OR suicide OR "self harm" OR NSSI)	Published date >1990 Language: English <i>Research articles only</i>
Medline (Web of Science)	("online community") OR ("online health community") OR ("online forum") AND moderator AND suicid* OR "self harm" OR NSSI	From 1990 to 2019 (Basic search) Language: English
SAGE Journals	"online community" OR "online health community" OR "online forum" AND moderator OR facilitator AND suicid* OR "self harm" OR NSSI	From 1990 to 2019 Language: English
Taylor and Francis Online	"online community" OR "online health community" OR "online forum"~4 AND moderator OR facilitator AND suicid* OR "self harm" OR NSSI	1990–2019 Language: English

Academic Edition and Sociology Ultimate. All of these databases are located within EBSCOhost.

- ▶ ScienceDirect.
- ▶ Medline.
- ▶ SAGE Journals.
- ▶ Taylor and Francis Online.

The detailed search strategy and search strings can be located in the published protocol¹¹ (table 1). The search strategy was conducted independently by two reviewers (AP, DP) and 395 results were returned as well as an additional two articles identified through hand searching of reference lists. Six articles were initially selected for inclusion; however, one article was a systematic review and was excluded at the data analysis stage, resulting in five included studies.^{7 16 23 31 32} While the excluded systematic review was not part of this scoping review, the reference list was carefully reviewed to ensure that all relevant studies were included. The reference management programme EndNote (V.9) was used to manage the search results, with duplicate results (n=2) eliminated at the first stage of the review.

Stage 3: study selection

Each remaining article was independently screened for eligibility by two reviewers (AP and DP). The following inclusion criteria were applied to studies identified in step 2.

1. Each study needed to have undergone a peer review process to ensure only high-quality and credible studies were included. As such, grey literature (nonacademic literature) was explicitly excluded.
2. Each study had to be primarily focused on online mental health forums; therefore, comparative studies of

online mental health forums and other mediums were excluded.

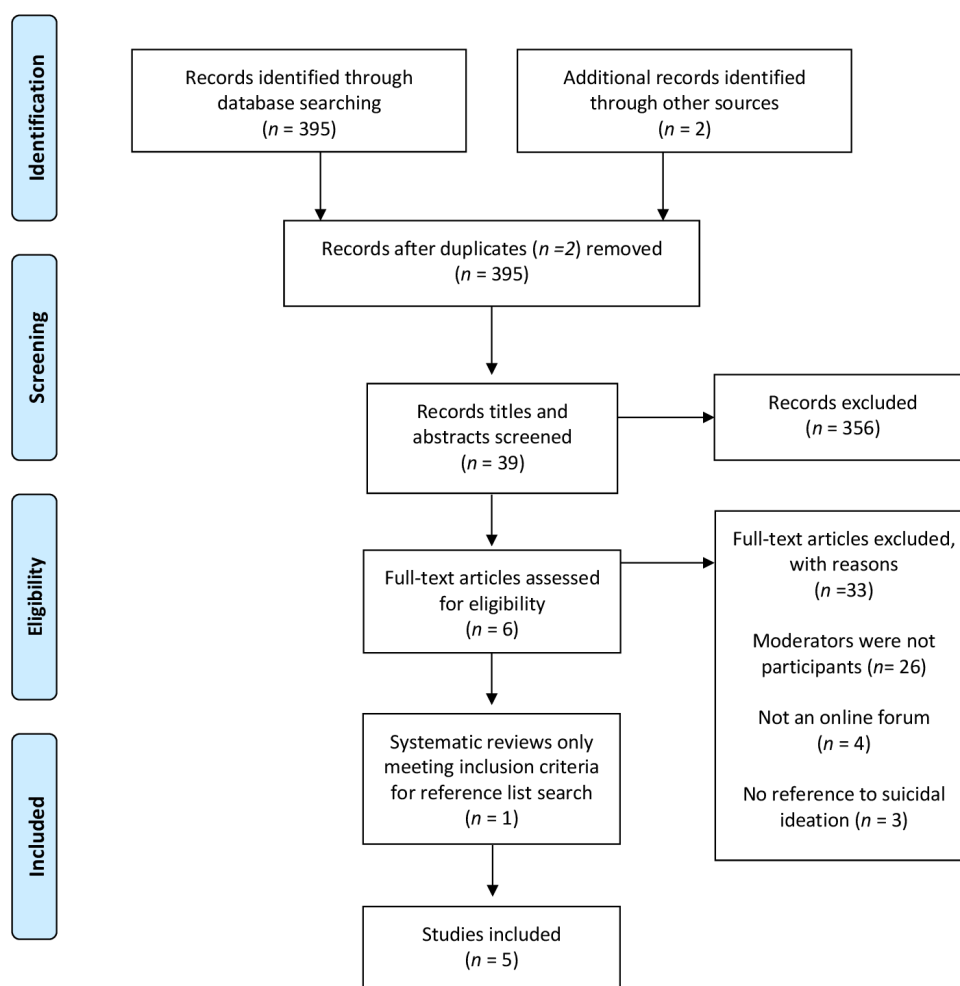
3. Any study that included moderators of an online health forum as a participant were included.

Reviewers independently completed each level of screening as outlined below. The first level of screening was limited to title and abstract review, followed by a full-text review of the remaining articles. The reference list of each included article was also screened to identify any potential additional articles that may not have been identified in stage 2. A conservative approach was adopted when screening studies to ensure relevant studies were not inadvertently screened out at the title and abstract stage. Thus, for any studies, where it was not clear if the exclusion or inclusion criteria were present, the studies were included for full screening. The reviewers met at the end of each stage of screening to discuss and compare findings. There was one discrepancy when identifying duplicates and two discrepancies at full-text review. In each instance, the discrepancies were resolved through discussion resulting in consensus. The PRISMA flowchart (refer to figure 1) records the number of articles at each stage and provides an overview of the breadth of the literature.

Stage 4: data extraction

The first reviewer (AP) extracted data from the five included studies using an adapted JBI template for evidence details, characteristics and results extraction instrument.³³ Extracted data included bibliographical information (ie, author, year) and study characteristics (ie, aim, methodology, online forum description, key findings, conclusions). To ensure quality and accuracy

PRISMA Flow Chart



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Figure 1 Search process overview as captured by PRISMA. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

of the data extraction process, an audit of the extraction process was undertaken by reviewer DP, who directly compared and contrasted the extracted data with the articles of origin. All articles were included in the audit with no errors being identified.

While assessments of research quality are not mandatory for scoping reviews,²⁸ a quality assessment of included articles was undertaken. AP rated the research quality of studies using an adaption of the JBI critical appraisal tool checklists.²⁸ As per JBI guidelines, reviewers can adopt a point scoring system to assist in making judgements about the overall quality of studies. To this end, each appraisal item was weighted equally and given 1 point if scored as 'yes' and 0 points if scored as 'no'. Appraisal items not applicable to the study were not counted and deducted

from the total tally scores. The total score for each study was calculated and the rating of poor, moderate or high research quality allocated. After consultation with the research team, we established a set of criteria to determine poor, moderate and high research quality. Poor-quality research was defined as scoring less than 50%, moderate-quality research scoring between 50% and 80% and high-quality research scoring greater than 80%.

The overall appraisal of quality and supporting comments for each included article were recorded on the data extraction form. These quality assessments were checked for accuracy by DP at the same time as the aforementioned extraction audit was undertaken. No studies were excluded based on quality assessment judgements. As this scoping review sought to map the existing literature

rather than critically synthesise and answer a set question, a bias risk assessment was not undertaken.³⁴ The possibility of bias and how it had been addressed was assessed using criteria such as clarity of the review question and appropriateness of inclusion criteria when making the quality assessments.

Stage 5: Collate, summarise and report the data

The reporting of results was guided by PRISMA and extension for Scoping Reviews checklist. A tabular synthesis was used to record the study characteristics, quality assessments, moderator characteristics, study limitations and research gaps. A narrative summary was included to provide an account and interpretation of the findings.³⁵

Stage 6: consultation

While consultation is considered an optional stage²⁶ Levac *et al*²⁷ assert that the consultative process is essential in ensuring methodological rigour, as experts in the field of the review may be able to offer additional perspectives or critique on the findings and suggest additional sources of information for the scoping study. The lead author consulted with 14 moderators, five of whom provided feedback on the findings of the scoping review. These moderators were considered to have expert knowledge of forums and the professional practices of moderators who provide support for individuals experiencing suicidal thoughts and behaviours. The moderators were surprised at the dearth of research that has focused on online mental health forum moderators, and they affirmed the need for more focused research in the future.

Patient and public involvement

No patients or members of the public were involved in this scoping review.

RESULTS

Study characteristics

The aims and characteristics of included studies are outlined in [table 2](#). The study aims of the included articles varied and included reviewing or describing an online forum,^{23 31} exploring the experiences or responses of members,^{7 32} and comparing trained volunteer moderator responses to lay individuals' responses.¹⁶ Included publications came from a small number of developed countries with no one country dominating results. Publication dates ranged from 2007^{31 32} to 2012,¹⁶ reflecting a lack of recent peer-reviewed research. All five articles adopted a qualitative research approach; two studies used content analysis^{7 16} and the remaining articles adopted descriptive narratives.^{23 31 32}

Three articles featured general mental health forums that catered for a range of mental health needs^{16 31 32}; the others focused on suicide prevention,^{7 23} with one focusing specifically on distressed adolescents.²³ While all studies were qualitative, there is little methodological similarity between them with content analysis, linguistic analysis,

descriptive narrative report, narrative field project report and a descriptive case report all being used. Further the professional practices, or 'the how', were not the key focus of included articles, rather moderator tasks or 'the what', were explored as part of the overview function of the online forum.

Characteristics of moderators

The training and practices of moderators are outlined in [table 3](#). The majority of study participants were moderators without specific professional mental health training or qualifications^{7 16 23 31} and were volunteers who had completed preservice training provided by the forum. Preservice training differed in terms of length of time, content and mode of delivery. Training duration ranged from 2 days²³ to 6 months³¹ with training content ranging from 1 to 3-day skill-based workshops,²³ 60 hours of suicide prevention training,¹⁶ to 16 weekly simulation training sessions.³¹ The mode of delivery was not explicitly stated in all included articles, with one article referring to online classroom sessions and simulations³¹ and another referring to 12 group sessions.¹⁶

Entry requirements for the moderation role were unclear from the included articles. One study stated that no specific training or qualification was required, however, practical experience of helping others was.³¹ The same study outlined a typical selection process where 15 people from an applicant pool of up to 160 people are selected to engage in the 6-month preservice training programme, however, only half the number of selected applicants would successfully complete the training.³¹ No explanation was given for the low completion rate other than the challenge of volunteers maintaining discipline and commitment.³¹ One article³² included a qualified health professional (medical doctor) as the sole moderator, with no information provided as to whether the health professional engaged in any training to transfer their clinical in-person skills to the online space. These findings indicate that there does not appear to be standardised training requirements and, therefore, guidance regarding what training and background is needed for individuals to become moderators for forums where suicide content and associated behaviours are discussed.

Across all studies, moderators were required to ensure that the forum was a supportive and safe environment for members; however, what moderators did to enact this differed. A majority of the articles included reference to moderators offering resources and referrals to external sources of support.^{7 16 23 31} One article²³ stated that moderators were trained to recognise posts that may be harmful and to respond accordingly, which may consist of alerting a supervisor to potential risk, especially if the moderator is unsure of how to respond. It was not clear how moderators identified what content could be harmful, and what action was required in order to respond accordingly. In other articles,^{7 31 32} the moderators themselves responded to distressed members. In one article,³² any post with an intention or suicide

Table 2 Summary of study characteristics and outcomes of quality assessment

Authors and country	Research aims	Methodology	Study participants	Quality assessment result	Appraisal comments
Greidanus and Everall ¹⁷ Canada	To explore what are the experiences of adolescents seeking help online for suicidality, to provide a rich description of a working online community.	Qualitative: content analysis (thematic analysis)	Online forum members Trained volunteers (moderators)	77% Moderate Quality	Location of participants could not be determined. Due to the parameter of anonymity the exact number of community members, as well as their ages and genders could not be determined. There was little description provided about the trained volunteers beyond the training they received, and the patterns identified in their posts/responses to members.
Gilat <i>et al</i> ¹⁶ Israel	To compare trained volunteers and lay individuals' responses to distressed messages on an online community forum.	Qualitative: linguistic and content analysis	Forum members and moderators	77% Moderate Quality	No statement locating the cultural or theoretical orientation of the researchers. Number of members and moderators involved in the study is not stated. Only one online community was reviewed and therefore may not be representative of all online mental health communities.
Webb <i>et al</i> ²³ Australia	To describe the development and conceptual underpinnings of the Reach Out! Online Community Forum.	Qualitative: descriptive narrative report	Forum members and moderators	50% Moderate Quality	No statement locating the cultural or theoretical orientation of the researchers. No information provided as to the number of forum members or moderations included in the study. Ethical considerations relating to the conduct of the study not discussed. Only one online community was reviewed and therefore may not be representative of all online mental health communities.
Barak ³¹ Israel	To review an Israeli-based suicide-prevention initiative, which provides free and open for-all emotional support, that is based on clear psychological foundations.	Qualitative: descriptive narrative field project report (n=1)	Anonymous skilled helpers (moderators)	50% Moderate Quality	No philosophical perspective stated. The online forum is a Hebrew website, using only the Hebrew language, and therefore may not be representative of all online mental health forums. There was little description provided about the participants beyond the training the received in order to become anonymous skilled helpers (moderators).
Hsiung ³² USA	To describe the responses of online group members to a suicide within the forum and make recommendations for suicide prevention in online support groups/forums.	Qualitative: descriptive case report (n=1)	Forum members and the sole moderator	66% Moderate Quality	No philosophical perspective stated. No statement locating the cultural or theoretical orientation of the researchers. Only one online community was reviewed and therefore may not be representative of all online mental health communities. As the researcher was a participant-observer, they may be less objective than an independent investigator.

Table 3 Summary of moderator characteristics

Authors and country	Moderator training	Moderator practices
Greidanus and Everall ⁷ Canada	Telephone suicide prevention training (60 hours) Training in translating their person helping skills to the online environment.	Moderator messages to members were similar and conveyed empathy and understanding. Moderator offered statements that affirmed the members feelings, experiences and if applicable, an aspect of the member's character. Moderators encouraged members to consider the resources they have in their immediate setting, as well as resources that are external to them such as supportive adults. Moderators suggested specific resources such as local telephone support lines. Moderators monitor posts/threads and never author posts. Moderators made reference to the whole community when trying to establish boundaries of acceptable behaviour that is, 'In order to keep this a safe place for everyone to talk about what is going on for them'
Gilat <i>et al</i> ¹⁶ Israel	12 group sessions to develop interpersonal therapeutic skills and gain information about psychological disorders. Four sessions of personal supervision.	Establish and enforce the formal rules for group discussions and foster an environment characterised by a positive attitude towards living. Moderators discourage promotion of suicide and respond to distressed members offering messages emotional support and referrals to external services.
Webb <i>et al</i> ²³ Australia	Aged 18 years or older. Completed at least one Youth Ambassador skills workshops. Compulsory participation on a 2-day scenario-based training session.	Moderators to foster a safe and positive environment, and ensure members follow the rules. Moderators read all posts and respond to any inappropriate content, as well as any referral requests or content that has not received a response from the community in 24 hours (or an adequate response). Moderators are trained to recognise and respond to any posts which may be harmful that is, include methods or intentions to self-harm or suicide by deleting them and supporting the member. Moderators must report crisis posts to the supervisor, as well as any posts they are unsure of how to respond to.
Barak ³¹ Israel	No required to have a mental health background or training but must have practical experience in some form of helping. Computer skills are essential. 6 month training programme comprised of 16-weekly 4 hour face to face classroom sessions, and 10 hours of online discussions, exercise and simulations. Moderators commence a 2-month internship at the end of their training.	Moderators follow strict guidelines and protocols across all channels. Moderators responses are to reflect empathetic understanding and non-judgement. Moderators offer information and external referrals as needed.
Hsiung ³² USA	A health professional (medical doctor)	The moderator removed any false information, particularly ingenuine expressions of suicidality. Suicide contagion was minimised by electing not to make special announcements.



plan was investigated, and any false reports of suicidality were treated as a breach of forum guidelines and removed. In all articles, the moderators were responsible for discouraging the legitimisation and promotion of suicide; instead fostering a positive attitude towards life. It was unclear from the articles what training equipped moderators to recognise harmful content, respond to distressed members and those at risk of making an attempt on their life and promote a positive attitude towards life nor how they did this.

All studies received a moderate quality rating of between 50% and 80% (see [table 2](#)). The absence of high-quality studies is a limitation, indicating the need for better-designed studies in the future. Such studies would include more participant information (forum members and moderators) and explore more than one forum and include more information on the training moderators receive to be able to work online with distressed individuals. The absence of recent research is a further limitation given the increasing interest in online interventions and changing patterns of internet use³⁶ and highlights the need for current research in order to progress the field.

Each study featured one individual online mental health forum. The diversity of mental health forums in terms of concerns catered for, characteristics of forum members and approaches to moderation meant that a singular forum cannot be deemed as representative of all mental health forums. For this reason, the potential for transferability of specific insights into forums is limited given the different methodological approaches and, in particular, the utilisation of descriptive case and narrative reports that are intended to capture a particular experience. However, transferability of broader findings that are not context specific per se is possible. The included studies came from four countries, with a notable lack of representation from areas such as the UK and Asia despite these being locations where online mental help is available.^{37 38} This narrow global representation is a limitation as the results from these countries cannot be generalised given that cultural understandings of suicide can influence suicidal behaviours.³⁹

Moderators featured in all studies; however, as moderators were not the primary research focus, a gap in understanding the professional practices of moderators has resulted. Furthermore, moderators were not asked about their professional practices or experience of working on online forums. This means researchers do not know what it is like for moderators to work with individuals experiencing a suicidal crisis in the online space, in terms of the aspects they enjoy and the challenges they face. The lack of research that focuses on qualified health professionals who work as moderators is a further gap, as only one included study featured a qualified health professional as the moderator.

DISCUSSION

The included studies highlighted that the broader work of moderators is to maintain safe and positive online spaces, and that online forums can play a part in improving mental health and are becoming increasingly popular. However, despite an increasing number of people turning to online forums to seek help for mental health concerns such as suicidal behaviours, this review has highlighted that little research has explored the professional practices of moderators who are responsible for keeping forums a safe space. Of the research that has been conducted, this review identified that focus has been on volunteer moderators rather than qualified health professionals. It appears that an examination of how those who work online, with individuals experiencing suicidal behaviours provide safety and support, has not yet occurred. The existing research provides little insight as to how and when moderators knew to respond to members who were experiencing a suicidal crisis or how moderators felt about working in such an online space.

This review identified that the professional practices of moderators were often conceptualised as work tasks such as ‘read all posts and respond to anything inappropriate’.²³ Viewing the professional practices of moderators as a list of specific task risks adopting a reductionist or simplistic approach to what are often complex and multifaceted decisions and interactions.²³ Equating practices with tasks provides little information about the deeper theoretical and procedural knowledge and skills that are used by a moderator to identify what constitutes inappropriate content and how to respond to the content in ways that mitigate and manage risk, especially if the inappropriate content reflects suicidality. This is an issue as moderators are responsible for working with vulnerable populations online, with little research available that explicates how these professional practices are enacted or what knowledge informs these practices. This makes it difficult to assess the effectiveness of online forums in providing support and help to individuals experiencing suicidal behaviours and ideation. It also makes it difficult to raise awareness of the potential value of this suicide prevention work. This is important because in face-to-face therapy, examining how therapy is enacted within the confines of the consultation has provided a better understanding of the process of behavioural, emotional and cognitive change that occurs between client and therapist.⁴⁰ This is currently missing in the online space.

This review showed that there is a dearth of research that has specifically focused on qualified mental health professionals who work as moderators. Perhaps this is reflective of the moderator role as one that is more facilitative than therapeutic in nature. This aside, it is unknown how such moderators’ transition from working face-to-face with individuals displaying suicidal behaviours and ideation to working online; often with additional factors such as anonymity, and the absence of visual cues such as personal presentation and body language. Review findings indicate that there are varying degrees of training

and preparedness of online moderators across forums and potentially raises questions as to the efficacy of moderator support for forum members who are experiencing a suicidal crisis. It also raises questions around the safety and well-being of moderators in terms of their level of preparedness to engage with the degree and frequency of risk presented in the online space. While this study did not focus on the risks associated with moderators who provide online mental health support and who were not provided with training (in-house or formal), there is the potential for these untrained moderators to miss key suicidal behaviour indicators when interacting online.

A further gap in the literature is the absence of asking moderators about their experiences as moderators. In this context, experience pertains not only to the tasks moderators undertake but to the professional and procedural knowledge and skills that they call on to complete these tasks and engage with members who are experiencing a suicidal crisis. Critically what is missing is what aspects of working online with those experiencing a suicidal crisis, do moderators find challenging. The field does not know what it is like for moderators to work in the online space, how they perform their work or what skills and knowledge they drawn on to support those members in crisis.

It is vital for clinicians and policymakers to gain a better understanding of the professional practices of moderators to ensure the adequate support and safety of both moderators and forum members. To move the field forward, a starting point may be asking moderators about their moderation experiences to find out what they do (and do not do) in practice in the online space when working with those experiencing a suicidal crisis. Gaining this information can be achieved through interviewing moderators about their online forum moderation work in terms of their training, the aspects of the role they enjoy or find challenging and when and how they know to respond to support members analysing moderator interactions with members who are experiencing suicidal behaviours will also enable researchers to contrast and compare what moderators believe they do in theory to what actually occurs in practice. Gaining insight into the forum moderators is likely to assist in enhancing the recruitment, training and retention of forum moderators to the benefit of forums as organisations, the moderators themselves in terms of job satisfaction and the vulnerable populations that they serve.

The strengths of this study include it being the first study to systematically and rigorously review the work of online forum moderators who work with individuals experiencing suicidal behaviours and ideation. It did this by adopting a scoping review methodology and the completion of quality assessments. A limitation of this study is the exclusion of grey literature and publications that were not subjected to peer review in order to ensure a level of quality assurance that scoping reviews are often criticised as lacking.⁴¹ Furthermore, the inclusion of English-only articles means that potentially relevant sources of information may have been excluded from this review and,

therefore, from the analysis, and this may have changed the review outcomes.

CONCLUSION

This scoping review provides an overview of what is currently known about forum moderators who support members experiencing suicidal behaviours. This review initially sets out to focus on mental health professionals who work as moderators; however, as there was only one available article that focused on this specific population, a wider scope was adopted to review the work of moderators regardless of qualifications. Five articles met the inclusion criteria and were qualitative and descriptive in their approach. No specific information was provided as to how moderators identify those who are experiencing a suicidal crisis or how they know to respond in the way that they do, instead the studies included information on what specific task moderators undertook. We posit that more research is required to understand the professional practices of moderators and that a rigorous and robust research strategy is needed to guide future research. The next steps must include interviewing moderators about their professional moderation experiences and closely examining and analysing moderator interactions with forum members experiencing suicidal behaviours.

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Contributors AP led the design and development of this study and wrote the first draft of this paper. AP and DP conducted the searches and applied the selection criteria, with AP completing the data extraction and research quality assessment. DP conducted a quality assessment audit. AL-M, CdP, JdP and DP provided guidance and constructive feedback at all stages of the research. All authors approved the final manuscript and have given consent to the publishing of this article.

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REFERENCES

- 1 Bell J, Mok K, Gardiner E, *et al.* Suicide-Related Internet use among suicidal young people in the UK: characteristics of users, effects of use, and barriers to Offline help-seeking. *Arch Suicide Res* 2018;22:263–77.
- 2 Naslund JA, Aschbrenner KA, Marsch LA, *et al.* The future of mental health care: peer-to-peer support and social media. *Epidemiol Psychiatr Sci* 2016;25:113–22.
- 3 Coulson NS. How do online patient support communities affect the experience of inflammatory bowel disease? an online survey. *JRSM Short Rep* 2013;4:204253331347800.
- 4 Huh J, Marmor R, Jiang X. Lessons learned for online health community Moderator roles: a mixed-methods study of Moderators Resigning from WebMD communities. *J Med Internet Res* 2016;18:e247.
- 5 Xing W, Goggins S, Introne J. Quantifying the effect of informational support on membership retention in online communities through large-scale data analytics. *Comput Human Behav* 2018;86:227–34.
- 6 Atanasova S, Kamin T, Petrič G. The benefits and challenges of online professional-patient interaction: comparing views between users and health professional moderators in an online health community. *Comput Human Behav* 2018;83:106–18.
- 7 Greidanus E, Everall RD. Helper therapy in an online suicide prevention community. *Br J Guid Couns* 2010;38:191–204.
- 8 Wiggins S, McQuade R, Rasmussen S. Stepping back from crisis points: the provision and Acknowledgment of support in an online suicide discussion forum. *Qual Health Res* 2016;26:1240–51.
- 9 Corrigan PW, Sheehan L, Al-Khouja MA. Making sense of the public stigma of suicide: factor analyses of its stereotypes, Prejudices, and discriminations. *Crisis: the Journal of Crisis Intervention and Suicide Prevention* 2017;38:351–9.
- 10 WHO. Suicide data, 2019. Available: https://www.who.int/mental_health/prevention/suicide/suicideprevent/en/
- 11 Perry A, Lamont-Mills A, du Plessis C, *et al.* Suicidal behaviours and moderator support in online health communities: protocol for a scoping review. *BMJ Open* 2020;10:e034162.
- 12 Nock MK, Millner AJ, Joiner TE, *et al.* Risk factors for the transition from suicide ideation to suicide attempt: results from the army study to assess risk and resilience in Servicemembers (army STARRS). *J Abnorm Psychol* 2018;127:139–49.
- 13 Horwitz AG, Czyz EK, King CA. Predicting future suicide attempts among adolescent and emerging adult psychiatric emergency patients. *J Clin Child Adolesc Psychol* 2015;44:751–61.
- 14 Tait G, Carpenter B, De Leo D, *et al.* Problems with the coronial determination of 'suicide'. *Mortality* 2015;20:233–47.
- 15 Mars B, Heron J, Klonsky ED, *et al.* Predictors of future suicide attempt among adolescents with suicidal thoughts or non-suicidal self-harm: a population-based birth cohort study. *Lancet Psychiatry* 2019;6:327–37.
- 16 Gilat I, Tobin Y, Shahar G. Responses to suicidal messages in an online support group: comparison between trained volunteers and lay individuals. *Soc Psychiatry Psychiatr Epidemiol* 2012;47:1929–35.
- 17 Oftedal B, Kolltveit B-CH, Graue M, *et al.* Reconfiguring clinical communication in the electronic counselling context: the nuances of disruption. *Nurs Open* 2019;6:393–400.
- 18 Ali K, Farrer L, Gulliver A, *et al.* Online Peer-to-Peer support for young people with mental health problems: a systematic review. *JMIR Ment Health* 2015;2:e19.
- 19 Pendry LF, Salvatore J. Individual and social benefits of online discussion forums. *Comput Human Behav* 2015;50:211–20.
- 20 DeAndrea DC, Anthony JC. Online peer support for mental health problems in the United States: 2004–2010. *Psychol Med* 2013;43:2277–88.
- 21 Prescott J, Hanley T, Ujhelyi K. Peer communication in online mental health forums for young people: directional and Nondirectional support. *JMIR Ment Health* 2017;4:e29.
- 22 Smedley RM, Coulson NS. A thematic analysis of messages posted by moderators within health-related asynchronous online support forums. *Patient Educ Couns* 2017;100:1688–93.
- 23 Webb M, Burns J, Collin P. Providing online support for young people with mental health difficulties: challenges and opportunities explored. *Early Interv Psychiatry* 2008;2:108–13.
- 24 Cohan A, Young S, Yates A, *et al.* Triaging content severity in online mental health forums. *J Assoc Inf Sci Technol* 2017;68:2675–89.
- 25 Lavis A, Winter R. #Online harms or benefits? An ethnographic analysis of the positives and negatives of peer-support around self-harm on social media. *J Child Psychol Psychiatry* 2020;61:842–54.
- 26 Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
- 27 Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
- 28 Aromataris EMZ, ed. *JBI manual for evidence synthesis*. JBI, 2020. <https://synthesismanual.jbi.global>. <https://doi.org/10.46658/JBIMES-20-01>
- 29 Moher D, Liberati A, Tetzlaff J, *et al.* Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 2009;339:b2535–b.
- 30 Tricco AC, Lillie E, Zarin W, *et al.* PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
- 31 Barak A. Emotional support and suicide prevention through the Internet: a field project report. *Comput Human Behav* 2007;23:971–84.
- 32 Hsiung RC. A suicide in an online mental health support group: reactions of the group members, administrative responses, and recommendations. *Cyberpsychol Behav* 2007;10:495–500.
- 33 Peters MDJ GC, McInerney P, Munn Z. *JBI manual for evidence synthesis*, 2020. <https://synthesismanual.jbi.global>. <https://doi.org/10.46658/JBIMES-20-12>
- 34 Munn Z, Peters MDJ, Stern C, *et al.* Systematic review or scoping review? guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* 2018;18:143.
- 35 Kastner M, Tricco AC, Soobiah C, *et al.* What is the most appropriate knowledge synthesis method to conduct a review? protocol for a scoping review. *BMC Med Res Methodol* 2012;12:114.
- 36 Krysinska K, Westerlund M, Niederkrotenthaler T, *et al.* A mapping study on the Internet and suicide. *Crisis* 2017;38:217–26.
- 37 Dosani S, Harding C, Wilson S. Online groups and patient forums. *Curr Psychiatry Rep* 2014;16:507.
- 38 Zhang R, Eschler J, Reddy M. Online support groups for depression in China: culturally shaped interactions and motivations. *Comput Supported Coop Work* 2018;27:327–54.
- 39 Keller S, McNeill V, Honea J, Paulson Miller L, *et al.* A look at culture and stigma of suicide: Textual analysis of community theatre performances. *Int J Environ Res Public Health* 2019;16:352.
- 40 Peräkylä A, Analysis C. And psychotherapy: identifying transformative sequences. *Res Lang Soc Interact* 2019;52:257–80.
- 41 Sucharew H, Macaluso M. Progress notes: methods for research evidence synthesis: the scoping review approach. *J Hosp Med* 2019;14:416.