Review Article

Urban–rural influences on suicidality: Gaps in the existing literature and recommendations for future research

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Abstract

Suicide is a major public health issue of particular concern among rural populations, which experience a consistently higher suicide rate than urban areas. Although extensive research efforts have been directed towards understanding suicidality and related factors, there is a continued lack of clinically useful factors to target preventive measures, particularly among some regional and demographic groups. This suggests limitations in the conceptualisation of this important construct. A review of the literature was undertaken, using a snowballing and saturation approach. Literature was considered relevant if it addressed the research question ‘what are the current limitations in research on urban/rural influences on suicidality?’ Findings were used to develop a set of guidelines to inform future research. A number of gaps in existing research relevant to limitations in rural suicide research were identified: inconsistencies in terminology; a focus on high-end suicidal behaviours; a disproportionate focus on urban populations; a dominance of cross-sectional research; and a high use of clinical samples. These limitations are discussed in terms of their implications for rural suicidality, and are used to support the development of recommendations for future research, with a focus on encouraging consistency and standardisation. A number of limitations can be identified in existing research on suicide. Targeting these specific areas can be an important step in addressing the current gaps in knowledge relating to rural suicide prevention.

KEY WORDS: gap, review, rural mental health, rural suicide, urban–rural influence.

Introduction

Suicide is a major issue in Australia, particularly among rural populations, where suicide rates are higher than in urban areas.1 To address this, a comprehensive understanding of the determinants of suicidality is necessary. Although extensive research efforts have been directed towards understanding suicide and related factors, the lack of clinically useful factors to target with preventive measures, particularly among some regional and demographic groups (e.g. young rural men) suggests limitations in the conceptualisation of this important construct. This opinion piece was informed by a narrative review of existing literature, conducted with the aim of highlighting limitations in the existing knowledge of suicidality, and to propose a set of themes, which can be used to guide future research.

Methods

An initial search was undertaken using Medline, EMBASE, PsycINFO, Cochrane and Google Scholar, with the criteria that articles should be in English, focus on humans, and were published between 2000 and 2011. The search was guided by our research question, ‘what are the limitations in research on urban/rural influences on suicidality?’ Suicidality was conceptualised as any thoughts or behaviours relating to suicide, including suicidal ideation, suicide plans and attempts, and completed suicide. The original search was conducted using keywords ‘suicide’ ‘suicidal’ or ‘suicidal–’ and potentially relevant papers were identified by a visual search of the titles and abstracts. Papers were sorted by relevance in each database, and a snowballing
approach was used, such that where a relevant issue became apparent, this issue was searched for independently, beginning with references cited in the paper that raised the issue. This process was continued until it was perceived that no new issues were being discovered, that is, that saturation had been obtained. Because of the large number of hits, papers were narrowed to those focusing on the determinants of suicidality, with full-text available, and preference was given to articles focusing on an Australian context. After snowballing repeatedly, and deciding that saturation had been reached, a total of 68 papers had been retrieved and read. Because of the broad scope of our topic of interest, and the narrative nature of this review, a systematic approach was not considered appropriate.

Gaps in existing literature

Five ‘themes’ emerged from a reading of the studies identified above; these are enumerated and discussed in turn below.

Inconsistencies in terminology and methodology

Recent suicidality research has seen inconsistencies in terminology, limiting the capacity to draw implications. While some studies incorporate behavioural intent into their definition of suicidal ideation, and distinguish between ideation and less active thoughts such as life weariness and death wishes, other studies use a definition which encompasses all thoughts of death or suicide regardless of their implication of future behaviour. This has resulted in suicidal ideation research often measuring different outcomes, impairing the comparison of data across studies. Likewise, while some measures of suicidal ideation inquire solely about the presence versus absence of thoughts of suicide (e.g. the Composite International Diagnostic Interview), others measure the severity of such thoughts (e.g. the Beck Depression Inventory-II), and yet others assess the frequency (e.g. the Patient Health Questionnaire). While each of these features are important, synthesising existing research might result in misleading conclusions being drawn if adequate consideration is not given to which aspect of suicidal ideation is the focus of previous studies. A similar trend has been noted for studies on suicide attempts; while some researchers measure the degree of suicidal intent to differentiate between suicide attempts and self-harm, other definitions incorporate deliberate self-harm in their classification of a suicide attempt without assessing the individual’s fatal intentions. Some studies simply ask the participant about their history of suicide attempts without defining this construct, allowing participants to attribute their own definition. This results in inconsistencies in the conceptualisation of the outcome within existing studies, as well as between them. Although attempts have been made to establish a consistent nomenclature, definitions of suicidal thoughts and behaviours continue to vary.

Existing studies are also subject to methodological differences. Previous research varies widely in the predictor variables investigated, resulting in few constructs being reliably associated with suicidality. Researchers also use different data collection methods; for example, the assessment of suicidality varies between face-to-face interviews, postal surveys and phone interviews. Therefore, it is difficult to determine whether differential findings between studies reflect variations in the study populations, or whether these results are the product of methodological inconsistencies.

Focus on suicidal behaviours

Suicidality research consists of a large number of studies focusing on fatal and non-fatal attempts, with a lesser proportion dedicated to suicidal ideation. Although attempted and completed suicides contribute greatly to the burden of morbidity and mortality, suicidal ideation is a significant public health issue in its own right. Suicidal ideation is a key predictor for suicide plans and attempts, and significantly increases the likelihood of their occurrence. Evidence suggests that earlier identification of individuals at risk for suicide

What is already known on this subject:
- Rural Australians experience a consistently higher suicide rate than urban residents.
- There is limited existing research on suicidality specifically targeting rural populations.

What this study adds:
Future research in this area might benefit from
- More consistent terminology and around what constitutes a suicide attempt and methodology to identify it.
- More consistent definition of what constitutes ‘rural’ and ‘remote’, with oversampling of these populations.
- More focus on suicidal ideation rather than suicidal behaviours.
- More longitudinal and population-based study designs.
increases the chances of prevention;\textsuperscript{19} therefore, targeting suicidal ideation can be an effective approach to prevent suicide. Despite its value as a predictor, few studies focus on suicidal ideation;\textsuperscript{17} therefore, relatively little is known about its characteristics or contribution to suicidal behaviours.\textsuperscript{11}

Focus on urban populations

In Australia, rates of suicide are higher in rural than urban populations.\textsuperscript{20,21} In particular, rural communities have witnessed a continued increase in deaths by suicide for young men.\textsuperscript{22} However, many studies on suicidality continue to focus on urban populations.\textsuperscript{23} When rural populations are investigated, many studies dichotomise geographical areas as ‘urban’ or ‘rural’, which might impede the ability to identify differential determinants between highly variable rural areas.\textsuperscript{24} Additionally, varying definitions of ‘urban’ and ‘rural’ are present in existing research, with recommendations to tailor this definition depending on the specific focus of the research.\textsuperscript{25} There is often an underrepresentation of residents from remote and very remote areas in research,\textsuperscript{26} and considering the high suicide rates among these populations,\textsuperscript{27} a greater focus on these individuals might be of significant value to increase knowledge of determinants of suicide in these high-risk areas. While some studies have oversampled ‘remote’ and ‘very remote’ participants in mental health research,\textsuperscript{28} this approach has not been implemented frequently enough to have obtained reliable results. Therefore, the existing research targeting rural populations is likely to be inconsistent. Few studies explore the role of social and psychiatric factors on the urban–rural suicide difference, with the majority of research being descriptive, that is, investigating the extent of the difference rather than factors associated with it.\textsuperscript{29,30} As a result, knowledge of rural suicide is currently too limited to make informed decisions about effective approaches for suicide prevention.

Dominance of cross-sectional research

The majority of studies on suicidality are cross-sectional, with only one Australian study identified in this review tracking the longitudinal course of suicidal behaviours.\textsuperscript{31} Cross-sectional designs do not allow for causal conclusions to be made;\textsuperscript{13} for example, while life stressors might contribute to the development of suicidal thoughts, it is equally viable to consider that these factors might be the outcomes of such a mindset.\textsuperscript{32} Hence, the extent to which preventative strategies might be informed by cross-sectional data is limited. Cross-sectional studies also do not allow for the exploration of factors associated with development and recovery from suicidality,\textsuperscript{32} nor do they allow for the investigation of the progression from suicidal ideation into plans and attempts.\textsuperscript{2} Therefore, the most useful targets for preventative strategies are currently unidentified.

In rural areas, access to lethal means might play an especially important role in the transition from suicidal thoughts to completed suicide. In particular, suicide by firearm is common in rural areas,\textsuperscript{33} especially among young men.\textsuperscript{34} The availability of lethal means in rural areas restricts the opportunity to intervene against suicide attempts; similarly, suicide attempts made using these means are more likely to be fatal. Although attempts at means restriction have been largely successful at reducing suicide rates,\textsuperscript{35} many potentially lethal resources are an integral part of everyday rural life; therefore, such an approach in rural areas might not be realistic. Longitudinal research exploring the development of suicidal thoughts might provide the best opportunity to discover modifiable risk factors for rural suicide and implement targeted prevention strategies. Considering a recent review indicating the contribution of a broad range of cultural, social and economic factors to rural suicide,\textsuperscript{36} an interdisciplinary approach to this issue might be particularly beneficial.

Use of clinical samples

Many studies on suicidality have used clinical populations.\textsuperscript{2,17} While this allows for convenient access to the target population, who have a higher prevalence of the outcomes of interest,\textsuperscript{37} it is also subject to limitations. Although the majority of individuals who die by suicide experience mental health problems, over 80% are not receiving treatment at their time of death,\textsuperscript{38} and many individuals at risk of suicide never come to clinical attention.\textsuperscript{2} Research has found that over 50% of individuals experiencing suicidal ideation do not seek professional help;\textsuperscript{39} likewise, 52.5% of individuals with a suicide plan and 57.9% of individuals who make a suicide attempt do not access treatment.\textsuperscript{14} A large proportion of high-risk individuals are therefore not represented in treatment-seeking samples, and focusing on these groups can limit the generalisability of suicide prevention strategies. Incorporating community samples into suicide research is needed to address this. Additionally, studying both treatment-seeking and non-treatment-seeking populations might increase understanding of the factors influencing the decision to seek help, and to remain in treatment.\textsuperscript{17} This might be of particular value, as disengagement from services itself is a risk factor for suicide.\textsuperscript{40}

Recommendations for future research

The ultimate goal of suicidality research is to contribute to the overall knowledge of suicide causes and prevention, and to identify evidence-based targets for interven-
achieved, our ability to integrate findings from multiple studies and apply them in a meaningful way will continue to be hindered. By adhering to the above suggestions, it is anticipated that future research might begin to uncover more reliable targets for suicide prevention.

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References


