



## Mental Health Interventions for Rural Adolescents: A Scoping Review

Research Article

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### Abstract

It is estimated that less than half of adolescents in rural and remote communities receive the mental health support they need due to barriers including limited access to mental health services and care providers, poorer quality mental healthcare, higher transportation costs and stigma. The purpose of this scoping review is to identify mental health interventions that have been implemented and evaluated in the literature specifically for rural adolescents between ages 10-19. A search of Medline was conducted. Of the 62 included studies, a majority were located in high income countries, focused on problematic substance use and were delivered in schools and through tele-health. The results suggest that while there have been diverse efforts to develop mental health interventions in this population, there are limited efforts to bring more specialized mental health services directly to rural communities. Rather there appears to be a reliance on task shifting and tele-health for these needs. Finally, there is a need for more intervention research targeting high burden disorders among adolescents like anxiety and mood disorders, and more support for intervention activities in low- and middle-income countries.

### Introduction

Adolescence is a critical period of emotional and behavioural development that impacts current and future psychological health.<sup>1</sup> Despite higher prevalence rates of mental health (MH) concerns among rural youth, approximately 20% fewer rural adolescents access MH treatment than their suburban and urban counterparts, and overall, less than half of rural adolescents with MH challenges receive support.<sup>2,3</sup> Recently, the severity of these MH challenges has led to some rural regions declaring states of emergency due to staggering rates of suicide.<sup>4</sup> MH barriers existing in rural populations include: limited access to MH services and care providers; poorer quality of MH care; higher transportation costs to services; and greater stigma.<sup>5,6,7</sup> Moreover, rural populations experience more material deprivation and use a greater portion of their incomes for health care, as compared to urban populations.<sup>8,9</sup> Innovative MH interventions are urgently needed for rural adolescents.

To date, literature has not offered a broad overview of adolescent MH intervention activities in rural populations. Therefore, this scoping review aims to identify MH interventions in this population that have been implemented and evaluated in the literature, and discuss their implications.

### Methods

Medline was searched for keywords and medical subject headings (available upon request). The Joanna Briggs protocol was followed.<sup>10</sup>

### *Study Inclusion criteria:*

*Participants:* Intervention *beneficiaries* were adolescents ages 10 to 19. Studies were still included where less than 50% of beneficiaries were within two years of this age range. Intervention *participants* (for example teachers or healthcare providers (HCPs)) could be outside this age range, as long as the ultimate beneficiaries were aged 10-19.

*Concepts:* The primary aim of studies was describing the implementation of a MH intervention, or evaluating or reporting outcomes. Interventions could cover any approach to MH promotion or treatment.

*Context:* Interventions were located in geographically rural or remote areas (as claimed by the study), in any country.

*Types of studies and sources:* Primary research studies of any design and year of publication, in English.

### *Exclusion criteria:*

- (1) Interventions delivered in suburban, or both rural *and* urban settings;
- (2) Interventions not yet implemented (prospective studies); and
- (3) Interventions focused on congenital or neurodevelopmental disorders. These were excluded because the focus of this review is on MH issues that can be prevented or treated, potentially to the point of full recovery, through interventions.



## *Extraction of results*

In this summary article, results from three study characteristics extracted are presented: study location; mental disorder addressed; and intervention delivery setting.

## **Results**

### *Search Results*

62 studies were included. Summaries and characteristics of each study are available upon request.

### *Location of studies*

Eleven countries were represented in the included studies. 58% of studies were from the United States, 17.7% from Australia, 11.3% from Canada, and 1.6% (one study) each in the Congo, Iran, India, Kenya, Nepal, Scotland, Thailand and Uganda. Overall 11% of studies were from low- to middle-income countries (LMICs), and 89% from high-income countries (HICs).

### *Mental disorder of focus*

33.8% of interventions addressed problematic substance use (PSU), 22.6% addressed an unspecified mental disorder (i.e. focused on treating participants for any MH concern), 17.7% were general MH promotion, 9.6% addressed attention, behavioural and conduct disorders (notably ADHD and anger management), 12.9% addressed depression, 6.4% anxiety, 3.2% psychosis and 3.2% PTSD. One study (1.6%) addressed suicide prevention and one eating disorders. Seven of the aforementioned studies addressed more than one of these MH issues simultaneously.

### *Intervention delivery setting*

Almost half the studies (46.7%) used schools as the delivery setting. Tele-health, which is remote delivery through audio and video conferencing calls, was the next most common intervention delivery method (24.2% of studies), 14.5% of interventions were delivered in households, 12.9% in community centers, 12.9% in a clinical setting, two (3.2%) used churches and one study (1.6%) was delivered in the juvenile justice system. Ten of the aforementioned studies utilized more than one setting for delivery.

## **Discussion**

### *Location*

Results of this review highlight global inequities in rural adolescent MH intervention research; only 11% of studies were from LMICs. This is problematic given the disproportionate burden of psychological stressors known to inhibit healthy

cognitive and emotional development in LMICs, including inadequate nutrition, infectious disease, political conflict and poverty.<sup>11</sup> Cultural stigma surrounding mental disorders, limited mental HCPs and government investment in adolescent MH, pose barriers to intervention implementation and research.<sup>11,12</sup> These findings highlight a need for more intervention research activities in LMICs.

### *Mental health area of focus*

PSU was the most common target of interventions, followed by general MH promotion, and treatment for specific mental disorders, with many interventions addressing more than one MH challenge. General MH promotion is important because it addresses the low MH literacy and high stigma surrounding mental illness commonly found in rural areas.<sup>13,14</sup>

Research suggests PSU is more common among rural adolescents than their urban counterparts, which may explain the numerous PSU studies.<sup>15,16,17</sup> However, evidence shows anxiety disorders are the most common MH problems among adolescents, followed by behaviour disorders (such as ADHD) and mood disorders.<sup>2</sup> Few interventions directly addressed these disorders, although they may have been indirectly addressed by other interventions. The focus on PSU is a significant limitation for informing LMIC interventions, where adolescent PSU is less common, and other issues such as PTSD are more pertinent.<sup>18</sup>

### *Delivery Setting*

Most interventions were delivered in community settings unrelated to health, including schools and households. Within all settings, three main intervention “types” emerged: individual psychological treatment; promoting MH awareness and healthy psycho-social behaviours; and altering social and physical environments to facilitate mental wellbeing.

Given the shortage of rural MH professionals, many interventions developed mental healthcare capacity among other stakeholders in adolescent wellbeing, like teachers, parents and family doctors. Such “task-shifting” is generally well-received by patients and providers, as local facilitators are trusted and understand the community context.<sup>19</sup> When applied in primary health care, task-shifting generally maintains accurate diagnoses, referrals and prescription practices.<sup>20</sup> Some limitations to task-shifting exist, for example ensuring the intervention is delivered as intended with minimal professional oversight, and limitations in some lay people’s ability to fulfill



specialized mental healthcare roles.<sup>21</sup> Moreover, increasing the already-heavy patient and workloads of rural HCPs can lead to excess stress on healthcare systems and providers, diminishing the quality of care.<sup>22</sup>

Tele-health was the second most common delivery method, which highlights the increasing integration of technology into healthcare. Two main uses emerged: (1) virtual clinical appointments between patients and specialized mental HCPs; and (2) specialized mental HCPs providing training or consults to local HC and service providers. Tele-health often has high client and practitioner satisfaction, is easy to use, is low cost, improves access to specialists, and enables continued education among local HCPs, another challenge in rural areas.<sup>19,23,24,25</sup> Tele-health has limitations, particularly in LMICs and very remote communities, including the high cost of purchasing and maintaining equipment, the reliance on consistent electricity and internet access, and the lack of familiarity and cultural appropriateness of the technology.<sup>26</sup>

## Limitations

A limitation of this review is that only one database, Medline, was searched. Although Medline is the most comprehensive database, it is typically recommended to search three. A search of grey literature would also have been beneficial. Finally, a uniform definition of rural was not used while determining inclusion criteria, due to diverse demographic and geographic interpretations of the term rural. However, the interventions included in the review appeared to be feasible in varied degrees of geographic remoteness. A single definition may neither be possible nor a substantial limitation.

## Conclusion

This scoping review demonstrates that peer-reviewed rural adolescent MH interventions generally focus on PSU and are mostly delivered in schools, community facilities, primary healthcare and households. There are limited efforts to bring specialized MH services directly to rural communities, and rather a reliance on task-shifting and tele-health for these needs. This review indicates a need for more intervention research targeting high-burden disorders among adolescents like anxiety and mood disorders, and more support for intervention activities in LMICs. Finally, it is important to note that very few interventions were specifically designed for vulnerable populations within rural communities, including low income, Indigenous or minority

populations. This is important because these populations often have lower than average mental health and do not always have access to culturally and economically relevant services. Next steps include further analysis of quality and outcomes of these studies to determine best intervention practices.

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