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Cardiac Monitoring for Adolescents With Eating Disorders

Rapid Review

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Key Messages

- No relevant literature was identified regarding the comparative clinical effectiveness of cardiac monitoring devices for adolescents with eating disorders in inpatient settings.
- No evidence-based guidelines were identified regarding cardiac monitoring for adolescents with eating disorders in inpatient settings.

Context and Policy Issues

Anorexia nervosa, bulimia nervosa, binge-eating disorder, and avoidant or restrictive food intake disorder are the most common eating disorders diagnosed among children and adolescents.[1] Collectively, these types of eating disorders have an estimated prevalence of 0.8% to 4.4% among adolescents.[2] Eating disorders are serious conditions that can lead to a variety of complications for physical health and social, emotional, and cognitive development.[1,3] If eating disorders are left untreated, there is an increased possibility of severe morbidity and even death.[3] Hospitalization of adolescents with eating disorders may be required for a number of reasons including, but not limited to: dehydration, electrolyte disturbance, cardiac abnormalities and other physiologic instabilities, acute food refusal, and uncontrollable binge eating and purging.[1] Among those adolescents who are hospitalized because of an eating disorder, cardiac abnormalities are of particular concern. Common cardiac complications include low heart rate, orthostasis, and poor peripheral perfusion.[1,4]

Given the potential for serious cardiac manifestations among this population, there are questions regarding the use of cardiac monitoring for adolescents with eating disorders in inpatient settings. Specifically, decision-makers are interested in the types of cardiac monitoring devices that are best suited for the adolescent inpatient population, as well as best practices with respect to cardiac monitoring to inform who and how care should be provided. The objective of this review is to identify and summarize available evidence describing the comparative clinical effectiveness of different cardiac monitoring devices, as well as evidence-based guidance regarding cardiac monitoring, for adolescents with eating disorders in inpatient settings.

Research Questions

1. What is the clinical effectiveness of cardiac monitoring devices for adolescents with eating disorders in inpatient settings?
2. What are the evidence-based guidelines for the use of cardiac monitoring for adolescents with eating disorders in inpatient settings?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, PsycInfo, the Cochrane Database of Systematic Reviews, the international HTA database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were cardiac monitoring and eating disorders. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English-language documents published between January 1, 2011 and October 26, 2021.

Selection Criteria and Methods

One reviewer screened citations and selected studies. In the first level of screening, titles and abstracts were reviewed and potentially relevant articles were retrieved and assessed for inclusion. The final selection of full-text articles was based on the inclusion criteria presented in Table 1.

Exclusion Criteria

Articles were excluded if they did not meet the selection criteria outlined in Table 1, they were duplicate publications, or they were published before 2011. Guidelines with unclear methodology were also excluded.

Table 1: Selection Criteria

Criteria	Description
Population	Q1 and Q2: Adolescent patients with eating disorders in the inpatient setting
Intervention	Q1and Q2: Any cardiac monitoring device (e.g., telemetry devices, electrocardiogram, implantable monitoring devices) used in the inpatient setting
Comparator	Q1: Any alternative cardiac monitoring device used in the inpatient setting Q2: Not applicable
Outcomes	Q1: Clinical effectiveness (e.g., clinical benefits or harms, patient satisfaction, patient quality of life, safety [e.g., adverse events]) Q2: Recommendations regarding the best practices related to cardiac monitoring for adolescent inpatients with eating disorders; recommendations regarding which health professionals (e.g., eating disorder nurses) should provide cardiac monitoring care for adolescent inpatients with eating disorders
Study designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, evidence-based guidelines

Summary of Evidence

Quantity of Research Available

A total of 275 citations were identified in the literature search. Following screening of titles and abstracts, 259 citations were excluded and 16 potentially relevant reports from the electronic search were retrieved for full-text review. Nine potentially relevant publications were retrieved from the grey literature search for full-text review. Of these potentially relevant articles, 25 publications were excluded for various reasons and no publications met the inclusion criteria and were included in this report. Appendix 1 presents the PRISMA[5] flow chart of the study selection.

Additional references of potential interest are provided in Appendix 2.

Summary of Findings

Clinical Effectiveness of Cardiac Monitoring Devices

No relevant evidence was identified comparing the clinical effectiveness of different cardiac monitoring devices (e.g., telemetry versus Holter monitoring) for adolescents with eating disorders in inpatient settings; therefore, no summary can be provided.

Guidelines

No evidence-based guidelines were identified regarding cardiac monitoring devices for adolescents with eating disorders in inpatient settings; therefore, no summary can be provided.

Limitations

No relevant literature was identified comparing the clinical effectiveness of different cardiac monitoring devices for adolescents with eating disorders in inpatient settings. In addition, no evidence-based guidelines were identified on the topic of cardiac monitoring for adolescents with eating disorders in inpatient settings.

Conclusions and Implications for Decision- or Policy-Making

No relevant literature or evidence-based guidelines were identified regarding cardiac monitoring devices for adolescents with eating disorders in inpatient settings; therefore, no conclusions about the clinical effectiveness or recommendations for best practices can be provided.

Research that focuses on the comparative clinical effectiveness of cardiac monitoring devices for adolescents with eating disorders in inpatient settings is required to inform the potential application of cardiac monitoring in this population. The lack of published evidence

precludes the creation of appropriate guidelines for health care providers responsible for caring for this patient population. Future studies addressing this gap in the literature may help reduce uncertainty in monitoring for cardiac abnormalities for this population.

References

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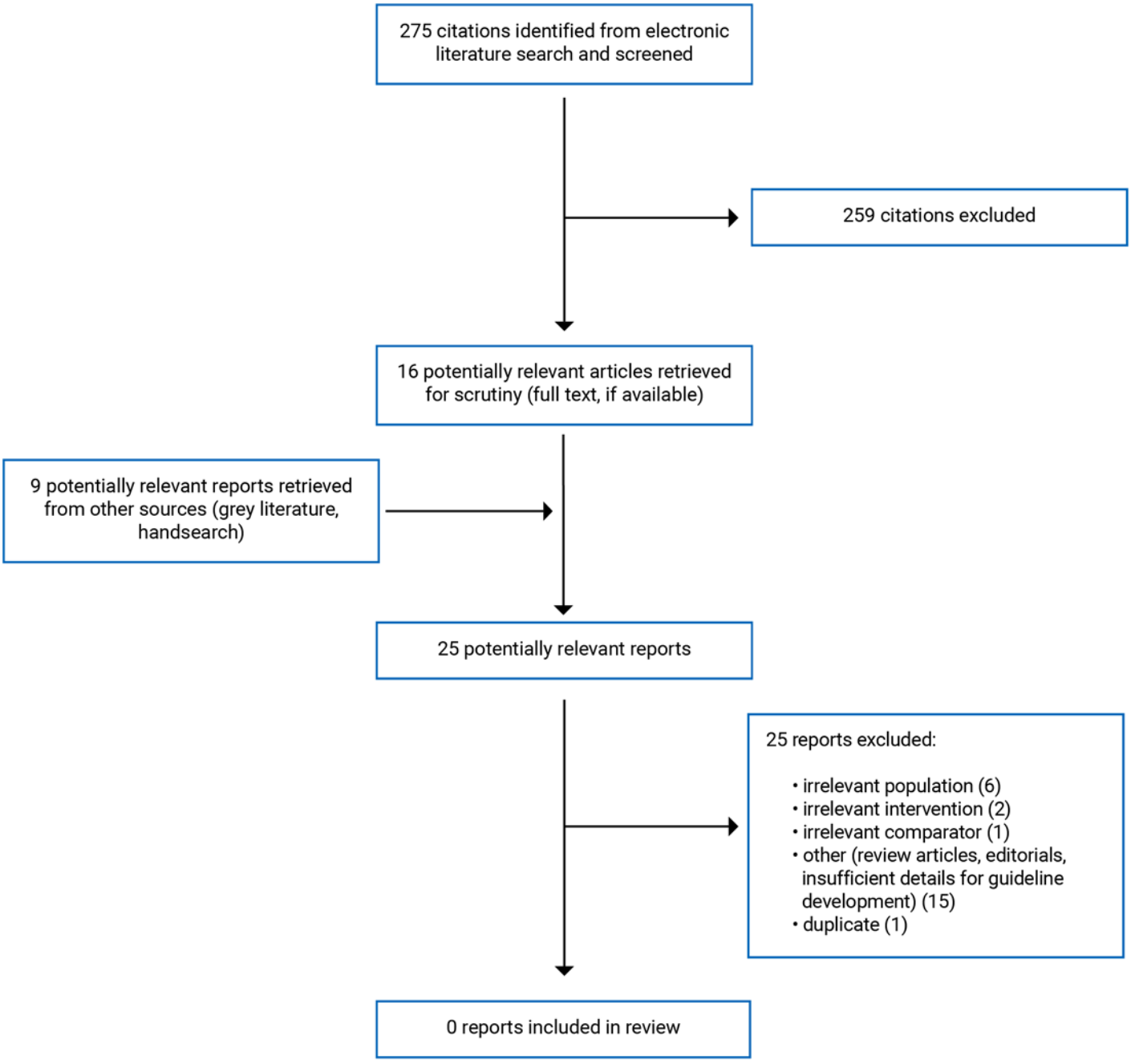
Appendix 1: Selection of Included Studies

Figure 1: Selection of Included Studies



Appendix 2: References of Potential Interest

Clinical Practice Guidelines

Couturier J, Isserlin L, Norris M, et al. Canadian practice guidelines for the treatment of children and adolescents with eating disorders. *J Eat Disord*. 2020;8:4. PubMed