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Climate Change and Adolescent Health: An Evidence Gap Map Exercise

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ADMINISTRATIVE INFORMATION

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 January 2024 and was last updated on 29 January 2024.

INTRODUCTION

Review question / Objective Research Questions - The research questions that will guide the evidence gap map exercise are as follows: 1. What are the documented impacts of climate change on adolescent health outcomes among adolescents aged 10-25 years? 2. How does climate change affect the risk of injury, lung disease, infectious disease, poor nutrition, sexual and reproductive health (SRH) issues, mental health, and education among adolescents? 3. What are the socioeconomic implications of climate change on adolescent health? 4. What interventions or strategies have been identified to mitigate the effects of climate change on adolescent health for adolescents aged 10-25 years?

Background This evidence gap map exercise aims to examine climate change's impact on adolescent health, focusing on adolescents aged 10-19 years. The protocol outlines the research questions, population, search strategy, study designs, outcome measures, quality assessment, data synthesis, subgroup analysis, sensitivity analysis, and dissemination plans.

Rationale The rationale for this evidence gap map exercise is to address the gaps in knowledge regarding the impact of climate change on adolescent health, specifically focusing on adolescents aged 10-19 years. Adolescence is a critical period of physical, cognitive, and psychosocial development, and climate change poses significant risks to their health, well-being, and prospects. Understanding the specific impacts and identifying evidence gaps will inform interventions and policies to protect adolescent health.

METHODS

Strategy of data synthesis To ensure a comprehensive exploration of the literature, we will implement a systematic search strategy across

various electronic databases. Prominent databases such as PubMed, Scopus, and Web of Science will be utilized to retrieve relevant articles. The search strategy will incorporate keywords and search terms encompassing the key concepts of climate change, global warming, maternal health, mothers, pregnant women, access to healthcare, socioeconomic factors, and other pertinent aspects. The search strategy will be tailored to each database's specific syntax and functionalities to optimize the effectiveness of the search

To enhance search precision and capture a broader range of relevant studies, we will employ various techniques, including Boolean operators (such as AND and OR), to combine search terms, truncation, and wildcard symbols to account for spelling and word endings variations. Additionally, we will employ appropriate subject headings and MeSH terms (Medical Subject Headings) where applicable to refine our search strategy and capture articles with greater accuracy.A comprehensaive literature search will be conducted using electronic databases, such as PubMed, Scopus, and Web of Science. The search strategy will include keywords and search terms related to climate change, global warming, adolescent health, adolescents, risk of injury, lung disease, infectious disease, poor nutrition, sexual and reproductive health (SRH), mental health, education, and relevant concepts. The search will be tailored to each database and may include Boolean operators (AND, OR) and truncation to enhance search efficacy.

Eligibility criteria The population of interest for this evidence gap map exercise is adolescents aged 10-25. This age group is chosen due to their unique vulnerabilities during this stage of development and the potential long-term consequences of climate change on their health, well-being, and prospects.

Source of evidence screening and selection The primary sources of information will be peer-reviewed journals. However, grey literature, reports, and policy documents will also be considered. In addition to electronic databases, other potential sources may include organizational websites, conference proceedings, and relevant expert contacts.

Data management Effective data management ensures that the research team organizes, maintains, and secures the collected information throughout the research process. The team will structure and standardize data collection to ensure consistency and accuracy. They will organize the data using databases or spreadsheets and categorize it based on predefined criteria and themes. The team will implement rigorous quality control measures during data entry to ensure accuracy and completeness. They will then analyze the data using appropriate techniques to address the research questions. Data will be securely stored and backed up, following established protocols to protect against loss or unauthorized access. The team will report the findings clearly and concisely through scientific publications or presentations. By employing robust data management practices, the research team ensures that the collected data is reliable and accessible and contributes to valid and impactful research outcomes.The data synthesis strategy will involve mapping and categorizing the evidence based on the identified research questions and outcomes. This will allow for systemaatically analyzing the available evidence and identifying research gaps. The data synthesis will be conducted in a descriptive manner, summarizing key findings and identifying areas where evidence is lacking.

Reporting results / Analysis of the evidence We will systematically and comprehensively report the results of our evidence gap map exercise. Our analysis will involve identifying and analyzing the available literature to map out the existing evidence gaps related to the impact of climate change on maternal health. This exercise aims to synthesize the literature and identify areas where research is lacking or insufficient.

We will actively analyze the collected data from various sources using appropriate techniques, such as statistical or qualitative analysis, depending on the nature of the data. We aim to extract meaningful insights and patterns from the literature, specifically focusing on the relationship between climate change and maternal health outcomes.

Quantitative data, such as trends or statistical measurements, will be analyzed using statistical software to identify patterns and associations between climate change and maternal health outcomes. Qualitative data, including textual information from the literature, will undergo systematic thematic analysis to identify key themes and findings related to the impact of climate change on maternal health.

Our analysis will be guided by the objectives of the evidence gap map exercise, aiming to identify gaps in the existing research and highlight areas where further investigation is needed. We will synthesize and present the findings clearly and coherently, ensuring that the data analysis supports our conclusions.

The results of our evidence gap map exercise will be reported in a suitable format for dissemination, such as research reports, policy briefs, or presentations. We aim to contribute to the body of knowledge by identifying the gaps in research and informing future research directions and interventions to address the impact of climate change on maternal health.The data synthesis strategy will involve mapping and categorizing the evidence based on the identified research questions and outcomes. This will allow for systematically analyzing the available evidence and identifying research gaps. The data synthesis.

Presentation of the results We will present the results of our analysis clearly and concisely, using visual aids such as charts, graphs, and tables to communicate the findings effectively. The presentation will begin by introducing the research objectives and explaining the methodology employed in the evidence gap map exercise, providing context for the audience.
We will then present the key findings of the analysis, summarizing the reviewed literature and highlighting the characteristics of the included research. We will emphasize the trends and patterns identified in the literature, focusing on the gaps in existing research and areas requiring further investigation.
To illustrate the evidence gaps, we will use visual representations, such as heat maps or thematic diagrams, to demonstrate the distribution and magnitude of these gaps across different aspects of climate change and maternal health. These visual aids will enhance the audience's understanding and emphasize the areas that require more attention and research.
Throughout the presentation, we will provide clear and concise explanations of the findings, using plain language to ensure accessibility and comprehension. We will actively encourage interactive discussions and invite questions from the audience to foster engagement and generate additional insights.
Our presentation aims to effectively communicate the evidence gap map exercise results, highlighting the gaps in research related to climate change and maternal health. We intend to inform and inspire further research, policy development, and interventions in this important field by visualizing these gaps and discussing their implications.

Language restriction Only articles published in the English language will be included.

Country(ies) involved Canada (University of Alberta).

Keywords Climate Change, Adolescent Health, Evidence Gap Map Exercise.

Dissemination plans The evidence gap map exercise findings will be disseminated to key stakeholders, including researchers, policymakers, healthcare providers, and community organizations. Dissemination activities may include workshops, webinars, conferences, reports, and peer-reviewed publications. The findings will be presented in a clear and accessible format to maximize their impact and reach a broader audience.

Contributions of each author

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