INPLASY

Climate Change and Maternal Health: An Evidence Gap Map Exercise

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 July 2023 and was last updated on 21 July 2023.

INTRODUCTION

Review question / Objective Research questions that will guide the evidence gap map exercise are as follows: 1. What are the documented impacts of climate change on maternal health outcomes among mothers aged 15-49 years? 2. How does climate change affect access to healthcare services for pregnant women and mothers? 3. What are the socioeconomic implications of climate change on maternal health? 4. What interventions or strategies have been identified to mitigate the effects of climate change on maternal health for mothers aged 15-49 years?

Background This evidence gap map exercise is designed to delve into the relationship between climate change and maternal health, specifically focusing on mothers aged 15–49. The primary objective of this exercise is to comprehensively explore and identify the existing gaps in the literature on this topic. By conducting a thorough evidence gap map, we aim to synthesize and analyze the available literature to pinpoint areas where research is lacking or inadequate.

Maternal health is a critical aspect of public health, and climate change has emerged as a prominent global concern. The potential impact of climate change on various facets of human well-being, including maternal health, has garnered significant attention from researchers, policymakers, and public health practitioners. However, despite the growing recognition of this issue, there is a need to assess the current state of knowledge and identify areas where further research is required.

By undertaking an evidence gap map, we seek to gather and evaluate the existing literature on the relationship between climate change and maternal health, specifically focusing on mothers aged 15-49. This age group represents a crucial stage in women's reproductive lives, where they may face unique challenges and vulnerabilities related to climate change.

The evidence gap map will be a comprehensive tool to visualize the available evidence, highlight research gaps, and guide future investigations. By

systematically reviewing and analyzing the literature, we aim to identify specific research questions that must be adequately addressed or require further exploration. This exercise will help prioritize areas where additional studies are needed to fill the existing gaps in knowledge.
Ultimately, this evidence gap map exercise aims to contribute to a better understanding of the impact of climate change on maternal health, which can inform evidence-based policies and interventions. By addressing the research gaps identified through this exercise, we can promote the development of targeted strategies and interventions to safeguard the health and well-being of mothers in the face of climate change challenges.

Rationale The rationale for this evidence gap mapping exercise is to address the gaps in knowledge regarding the impact of climate change on maternal health. Maternal health is a critical area affected by climate change, and mothers aged 15–49 are particularly vulnerable. By identifying the evidence gaps, we can highlight the areas requiring further research and inform future studies and interventions.

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.

Eligibility criteria The inclusion and exclusion criteria for selecting studies in this research project are carefully defined to ensure the relevance and quality of the literature. The inclusion criteria encompass several key aspects. Firstly, the population of interest is limited to mothers aged 15-49, as this age group represents the reproductive stage in women's lives. This focus allows for a more specific examination of the impact of climate change on maternal health. The selected studies must address health, social, and economic factors related to climate change, threats, and global warming. This ensures that the research explores the specific aspects relevant to understanding climate change's effects on maternal health outcomes. The impact on maternal health is a crucial aspect to consider, and the included studies should report on relevant outcomes such as miscarriage, pregnancy complications, lack of healthcare access, heat stroke, postpartum depression, and lack of food. By examining these outcomes in the context of climate change, the research can provide insights into the specific challenges mothers face and the potential consequences on their health. Only peer-reviewed research articles published in scientific journals will be included to ensure the reliability and scientific rigour of the evidence gathered. This criterion ensures that the studies have undergone rigorous evaluation and quality control processes, enhancing the credibility of the findings. The research context is also important, and the included studies should have a global perspective, encompassing research conducted worldwide. This allows for a comprehensive understanding of the impact of climate change on maternal health in different geographic regions and contexts. Additionally, studies conducted in specific regional or localized contexts will be considered if they provide valuable insights into the relationship between climate change and maternal health. Lastly, studies published in languages other than English will be excluded to ensure accessibility and comprehension for the research team and readers. By focusing on studies published in English, the research aims to facilitate effective analysis and interpretation of the findings. By applying these well-defined inclusion and exclusion criteria, the study seeks to select relevant and high-quality scientific literature that specifically addresses the impact of climate change on maternal health in the defined population and concepts.opulation: Mothers aged 15-49 years Concept: Health, Social, and economic climate change, climate threat, global warming Impact on maternal health: miscarriage, pregnancy complications, lack of healthcare access, heat stroke (Extreme heat may lead to elevated blood pressure and possible preeclampsia in pregnancy), postpartum depression, lack of food, Peer-reviewed research articles published in scientific journals. Context: Global Studies published in the English language.

Source of evidence screening and selection The study will primarily rely on peer-reviewed journals as the primary source of information. Peer-reviewed journals provide a rigorous evaluation process and ensure the quality and reliability of the research findings. These journals will be the foundation for gathering relevant and up-to-date scientific literature.

However, the research will also consider other sources of information beyond peer-reviewed journals. Grey literature, including reports and policy documents, will be deemed to capture additional valuable insights and data. Grey literature often contains useful information that may not be available in peer-reviewed journals, such as government reports, white papers, and technical reports. These sources can provide valuable context and perspectives on climate change and its impact on maternal health.

In addition to electronic databases such as PubMed, Scopus, and Web of Science, other potential sources of information will be explored. Corporate websites of relevant organizations and institutions may provide valuable reports, studies, and publications that contribute to understanding the topic. Conference proceedings and abstracts will also be examined to identify emerging research and recent findings.

Expert contacts will be another potential source of information. Engaging with experts in the field, including researchers, practitioners, and policymakers, can provide valuable insights, unpublished data, and access to relevant studies or reports that may not be readily available in the published literature.

By considering a variety of information sources, including peer-reviewed journals, grey literature, reports, policy documents, corporate websites, conference proceedings, and expert contacts, the study aims to gather a comprehensive and diverse range of information to address the research objectives effectively. This multi-faceted approach ensures that a wide range of perspectives and sources are considered, contributing to a comprehensive understanding of the impact of climate change on maternal health.

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.

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.

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 Only Articles published in English will be included.

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

Keywords Climate Change, Maternal Health.

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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