

BMJ Open Knowledge, attitudes and practice on sudden infant death: study protocol of a scoping review

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ABSTRACT

Introduction Sudden infant death syndrome (SIDS) is the unexpected death of an infant less than 1 year old, which occurs without presentation of any signs of mortality risk and it is not explained even after investigation, necropsy and review of the site of death. The nurse is an essential healthcare professional working with children and families who can contribute to preventing avoidable deaths of infants. Because SIDS is preventable, permanent education of the healthcare team, family members and infant caregivers is necessary.

Objective To explore the scientific literature about knowledge, attitudes and practice on SIDS.

Methods and analysis A scoping review will be conducted. Quantitative or qualitative primary studies, theses, dissertations and technical and governmental documents in English, Spanish, French or Portuguese will be considered, without a time limit for selection with search, in the databases: Pubmed, Embase, Scopus, Virtual Health Library, Digital Library of Theses and Dissertations of the Brazilian Institute and Cochrane. A search strategy will be elaborated with the keywords in the following themes: knowledge, attitudes, practice, sudden infant death and healthcare. The eligibility criteria will be applied to references of selected articles to identify new studies. The studies selected will be subjected to thematic content analysis, which allows data interpretation through a systematic classification process for coding themes to the analysis of quantitative and qualitative studies and meta-aggregation. NVIVO V.14 software will be used to organise, code and validate the data.

Ethics and dissemination Ethics approval is not required. The results will be disseminated to the health science community through professional networks, conference presentations and publication in a scientific journal.

INTRODUCTION

Sudden infant death has been observed and described since ancient times. Throughout the history of humanity, there has been concern about the health of newborns, especially during sleep, and empirical knowledge has been used to seek the means to protect infants and avoid sudden death. As cited in the journal of the *Brazilian Society of Pediatrics*,¹ between the seventh and

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Identification of patterns and common themes among studies through meta-aggregation.
- ⇒ Inclusion of journals, interdisciplinary materials and grey literature.
- ⇒ In-depth analysis and understanding allowed through the use of Nvivo V.14.
- ⇒ The lack of consideration of multiple languages is a limitation of the study.

eighth centuries BC, the Assyrians used the bronze head of Pazuzu, the king of the wind demons, to protect newborns from attacks by *Lamashu*, a female demon, who was believed to be responsible for miscarriages, stillbirths and cot deaths. According to the *Brazilian Society of Pediatrics*, the first record of sudden infant death syndrome (SIDS) is believed to be in the Bible: “and this woman’s child died in the night; because she overlaid it.” (1, Kings 3:19–22)

With the evolution and dissemination of scientific knowledge, it has become clear that SIDS can be prevented through changes in behaviour. However, the pathophysiology of SIDS is not sufficiently clear, and the established culture of caring for newborns can be a barrier to preventing it.¹

SIDS is described as the unexpected death of an infant under 1 year of age, which occurs without presentation of any signs of mortality risk and is not adequately explained after investigation, necropsy and review of the place of death.² According to Nunes *et al*, in those regions that implement informative intervention programmes, the incidence of SIDS has decreased as a result of increased provision of guidance to parents, family members and caregivers on the factors associated with its occurrence.³

But still even in developed countries the incidence is high and out of 100 000 live births, at least 1389 died from SIDS with less



than 12 months of life.⁴ In the USA, estimates have shown that SIDS accounts for 90% of mortality in children up to the 6th month of life. These data prompted several other studies on the risk of SIDS and the need of increasing the population's knowledge about this event.⁵

Many countries have adopted the United Nations' Sustainable Development Goals (SDG). Nurses have an essential role in achieving the goals targeting children and families by 2030, especially those related to ending preventable deaths of newborns and children under 5 years of age.⁶

We intend conducting this research project based on systematic discussions about the links between SDG, preventable death of infants and work strategies to effectively reach the population of caregivers. Considering the relevance of this context, this research project aims to explore the scientific literature about knowledge, attitudes and practice on SIDS.

Methods and analysis

Design

This is a scoping review that involves synthesising research evidence to map the existing literature on the subject in terms of its nature, characteristics and rates.⁷

The rates of incidence of SIDS are directly related to parents' and/or caregivers' prior knowledge—the greater the knowledge of strategies to prevent sudden death of infants, the less likely that such deaths will occur. We used patient, intervention, comparison, outcomes, timing (PICOT)⁶ criteria to structure the research question (table 1). To achieve our objective, the scoping review will answer the following question based on the PICOT criteria: What is the level of knowledge of professionals and caregivers about SIDS described in the literature?

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) extension for Scoping Review⁸ and the guidelines set by the Joanna Briggs Institute⁹ will be used as a methodological framework and to ensure rigour and allow replicability of this review.

Search strategy and terms

The scientific evidence will be searched for in PubMed, Embase, Scopus, Virtual Health Library, Brazilian Digital

Library of Theses and Dissertations of the Brazilian Institute of Information in Science and Technology and Cochrane databases (full details are available in online supplemental file).

We will also conduct a manual search of recommendations for strategies to prevent SIDS published by recognised health organisations, for example, the WHO, Centers for Disease Control and Prevention and the Brazilian Ministry of Health. The inclusion of heterogeneous sources will be an important strategy to obtain an in-depth understanding of the recommendations available to prevent SIDS.

The references of these selected articles will also be reviewed based on the previously established inclusion criteria to identify new studies not found in previous searches. In the case of the inclusion criteria, a search strategy will be elaborated with the keywords: 'Sudden Infant Death', 'Sudden Infant Death Syndrome', 'SIDS', 'Cot death', 'Crib death', 'Risk factors' 'Prevention Strategies', 'Caregivers', 'Health Personnel', 'Health Knowledge, Attitudes, Practice', 'Family Health Strategy', 'Health Education', 'Basic Health Services', 'Basic Health Care' and 'Home Care'. The Boolean operators AND and OR will be used as needed between keywords.

The search terms will include two main concepts:

1. "Sudden Infant Death" OR "Sudden Infant Death Syndrome" OR "SIDS" AND
2. "Caregivers" AND "Health personnel" AND "Health Knowledge, Attitudes, Practice" OR "Home Care" OR "Basic health Strategic".

This strategy will be adapted to the particularities of each database searched. No period will be delimited, and publications found in duplicate will be removed using EndNote.¹⁰

Screening process

Eligible quantitative or qualitative primary studies will be included in the review. We will also consider theses, dissertations, books and technical and government documents. There will be no publication time limit for selecting documents. The eligible documents may be in English, Spanish, French or Portuguese. A PRISMA flowchart

Table 1 PICOT criteria used in the scoping review¹⁸

| PICOT | Criterion |
|--------------|---|
| Patient | Parents, family members and caregivers of newborns. |
| Intervention | Prior knowledge, information and strategies regarding the prevention of sudden death. |
| Comparison | Survival of newborns whose parents and caregivers had knowledge or received guidance about strategies to prevent sudden infant death compared with the survival of newborns whose parents and/or caregivers were not aware of such strategies or did not receive relevant guidance. |
| Outcomes | Synthesis of information about the knowledge of and guidance on strategies for preventing and reducing sudden death of newborns, especially information related to continuing health education actions. |
| Timing | Sudden deaths occurring within less than 1 year of the child's life. |

PICOT, patient, intervention, comparison, outcomes, timing.

will be created to illustrate the steps for excluding and including articles.¹¹

The articles found will be read independently by two authors. They will apply the exclusion criteria to titles and abstracts and later to full texts. A third author will be consulted to resolve any discrepancies in the selection process. The third author will also review the studies and materials recommended for exclusion to ensure consistency and rigour in the application of the selection criteria.

The start date for the activities was December 2023. The end date is scheduled for September 2024, what is an approximate projection, subject to possible adjustments.

Data analysis

The articles selected will be subjected to thematic content analysis, which allows data interpretation through a systematic classification process for coding themes or patterns.¹² Through a reflexivity process, we will review the codes and analyse their interrelations to identify patterns enabling the construction of categories.

To enable the analysis of quantitative and qualitative studies, meta-aggregation¹³ will be performed according to the following procedure: high points of qualitative studies will be raised to generate themes which will be coded¹² and variables in quantitative studies will be transformed into similar themes and also coded.¹³ We will employ both quantitative and qualitative data to identify themes, coding all the information into a compatible system for meta-aggregation analysis, ensuring an appropriate transformation and utilisation of both types of data.^{14–16}

Possible variables to be considered for data extraction and analysis from quantitative studies:

- ▶ Tools used to predict the occurrence of the event (SIDS risk classification scales).
- ▶ Maternal characteristics associated with the event (previous illnesses and smoking).
- ▶ Neonatal characteristics associated with the event (extreme prematurity).
- ▶ Environmental characteristics associated with the event (adoption of prone position during sleep and use of blankets).
- ▶ Guidance strategies for SIDS prevention (structured training before discharge, conversation circles, delivery of visual material pamphlets, education for professionals).

The results of the analysis will be synthesised by constructing categories for organisation and presentation of the material subjected to meta-aggregation.^{13–15} After the literature review, the promotional material for the orientation strategy for families will begin to be developed through Healthcare Network, to be disseminated to the population to sensitise them to the ways to prevent SIDS.¹⁷

Given that scoping reviews allow the identification of gaps, as well as synthesis and description of the literature on the topic explored, we will not assess the risk of bias in

the empirical studies considered. However, we will map recommendations and factors associated with SIDS that will be useful for elaborating health educational materials to prevent its occurrence.

Data will be extracted on the following categories:

- ▶ General information, for example, author, date, title and country.
- ▶ Objective.
- ▶ Context, for example, level of healthcare, type of publication.
- ▶ Methods.
- ▶ Main findings.
- ▶ Recommendations/conclusions.

Thematic content analysis is appropriate for this review in order to explore and synthesise existing strategies for identifying and preventing SIDS. The analysis will consist of a synthesis of the content of relevant materials, and its findings will be used to develop categories which will be discussed by the authors and validated against the literature. NVIVO V.14 software will be used to organise, code and validate the data analysis.

DISCUSSION

Based on the findings of this scoping review, we expect to make recommendations for structured strategies for the prevention of SIDS involving assessments of newborns for their condition and prognosis at postpartum hospital discharge, as well as recommendations to strengthen the families about their ability to manage and provide essential care. Although we will focus on actions for health promotion and prevention, we will also consider studies that provide data relating to the three levels of care (primary, secondary and tertiary), to map birth location and different actions to prevent SIDS. In an effort to disseminate knowledge on this topic, this review seeks to define existing gaps to suggest new research that can contribute to the implementation of good practices and control of the SDGs, especially in relation to reducing preventable deaths in this age group.

ETHICS AND DISSEMINATION

This scoping review will be carried out in accordance with the guidelines and ethics established for literature reviews. As this is a review of an existing scientific literature, this study will not include human participants. Data will be collected from publicly available sources, respecting the copyright of those responsible for the studies.

The results obtained through this scoping review will be submitted for publication in a scientific journal, with the aim of disseminating and sharing the findings with the community. We plan to present the results at conferences and congresses in order to disseminate the knowledge obtained and encourage discussions on the topic.

Contributors AVDS and LR led the conceptualisation and design of this protocol. All authors made substantial contributions to the drafting and critical revision of the manuscript. All authors approved the final manuscript.



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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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Database: Embase

Termos de busca: ('sudden infant death syndrome'/exp OR 'sudden infant death syndrome'/syn OR 'crib death' OR 'cot death') AND ('national health strategies' OR 'health strategies' OR 'primary health care'/exp OR 'primary health care'/syn) OR ('health Personnel') OR ('health Education') OR ('health knowledge, attitudes, practice')

Boolean operators used: AND, OR.

Filters: Not applied

Database: Pubmed/Medline

Termos de busca: ("Sudden Infant Death") OR ("Sudden Infant Death") OR "Cot Death" OR "Cot Deaths" OR "Death, Cot" OR "SIDS" OR "Sudden Infant Death Syndrome" OR "Death, Sudden Infant" OR "Infant Death, Sudden" OR "Crib Death" OR "Death, Crib" OR 'Cot death') AND ("Primary Health Care" OR "Care, Primary Health" OR "Health Care, Primary" OR "Primary Healthcare" OR "Healthcare, Primary" OR "Primary Care" OR "Care, Primary") OR ("National Health Strategies") OR ("Health Strategies" OR Strategies) OR ("Health Personnel") OR("Health Education") OR ("Health Knowledge, Attitudes, Practice")

Boolean operators used: AND, OR.

Filters: Not applied

Database: Scopus

Termos de busca: ("Sudden Infant Death") OR ("Sudden Infant Death") OR ("Cot Death" OR "Cot Deaths" OR "Death, Cot" OR "SIDS" OR "Sudden Infant Death Syndrome" OR "Death, Sudden Infant" OR "Infant Death, Sudden" OR "Crib Death" OR "Death, Crib) AND ((Infant OR Infants) AND ("Primary Health Care") OR ("Primary Health Care" OR "Care, Primary Health" OR "Health Care, Primary" OR "Primary Healthcare" OR "Healthcare, Primary" OR "Primary Care" OR "Care, Primary") OR ("National Health Strategies") OR ("Health Strategies" OR Strategies) OR ("Health Personnel") OR("Health Education") OR ("Health Knowledge, Attitudes, Practice")

Boolean operators used: AND, OR.

Filters: Not applied

Database: Virtual Health Library

Search terms: ("Sudden Infant Death" OR "Sudden Infant Death" OR "Muerte Súbita del Lactante" OR "Crib death" OR "Cot death") AND (("Primary Health Care" OR "Atención Primaria de Salud") OR ("National Health Strategies" OR "Estrategias de Salud Nacionales") OR ("Health Strategies" OR "Health Strategies" OR "Estrategias de Salud") OR ("Health Personnel") OR ("Health Education") OR ("Health Knowledge, Attitudes, Practice"))

Boolean operators used: AND, OR.

Filters: Not applied

Digital Library of Theses and Dissertations (BDTD)

Search terms: ("Sudden Death" OR "Cot death" OR "Crib death") AND ("Health Personnel") OR ("Health Education") OR ("Health Knowledge, Attitudes, Practice")

Boolean operators used: AND, OR.

Filters: Not applied

Database: Cochrane

Termos de busca: "cot death" OR "crib death" AND "caregiver" AND "sudden infant death syndrome" OR "SIDS" OR ("Health Personnel") OR ("Health Education")

Boolean operators used: AND, OR.

Filters: Not applied