

EFEITOS DOS MEIOS AUDIOVISUAIS SOBRE CUIDADOS COM RECÉM-NASCIDO PREMATURO: PROTOCOLO DE REVISÃO

EFFECTS OF AUDIOVISUAL MEDIA ON THE KNOWLEDGE OF PARENTS OF PREMATURE NEWBORNS IN HOME CARE: SYSTEMATIC REVIEW PROTOCOL

EFFECTOS DE LOS MEDIOS AUDIOVISUALES EN EL CONOCIMIENTO DE PADRES DE RECIÉN NACIDOS PREMATUROS EN EL CUIDADO DOMICILIARIO: PROTOCOLO DE REVISIÓN SISTEMÁTICA

¹Marcelo Victor Freitas Nascimento

²Marcia Teles de Oliveira Gouveia

³Marialda Moreira Christoffel

⁴Nathaly Marques Santos Machado

¹Universidade Federal do Piauí,
Teresina, Brazil, Orcid:

<https://orcid.org/0000-0003-3465-2595>

²Universidade Federal do Piauí,
Teresina, Brazil, Orcid:

<https://orcid.org/0000-0002-2401-4947>

³Universidade Federal do Rio de
Janeiro, Macaé, Brazil, Orcid:

<https://orcid.org/0000-0002-4037-8759>

⁴Universidade Federal do Piauí,
Teresina, Brazil, Orcid:

<https://orcid.org/0000-0001-8737-423X>

Corresponding Author

Marcelo Victor Freitas Nascimento
Rua Fiscal Benedito Machado, nº 685,
CEP 6407-217, Teresina/PI – Brazil.
Phone: +55 (86) 99443-9556, E-mail:
marcelovictor16@hotmail.com.

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ABSTRACT

Objective: To identify evidence from randomized clinical trials evaluating the effectiveness of audiovisual media technologies on parents' and family members' knowledge of premature newborns in the home context. Materials and methods: Systematic review protocol developed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P). The protocol strategy is registered on the Open Science Framework. Searches will be conducted in the Portal de Periódicos of the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES), combining the descriptors "Infant Premature", "Audiovisual Media", "Parents", "Residence Characteristics", "Controlled Clinical Trial", and their variations. Only randomized clinical trials will be included, which will be managed using EndNote and Rayyan software. There will be no restrictions regarding publication date or language of the studies. The search will be performed independently by two reviewers using validated tools.

Keywords: Premature Newborn; Audiovisual Media; Parents; Caregivers; Residence Characteristics.

RESUMO

Objetivo: Identificar evidências advindas de pesquisas clínicas randomizadas que analisaram a eficácia da tecnologia do tipo mídia audiovisual no conhecimento de pais e familiares de recém-nascidos prematuros no contexto domiciliar. Materiais e métodos: Protocolo de revisão sistemática conduzido pelo *Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols*. A estratégia deste protocolo está publicada no *Open Science Framework*. As buscas serão realizadas via Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, combinando os descritores "Infant Premature", "Audiovisual Media", "Parents", "Residence Characteristics", "Controlled Clinical Trial" e suas conversões. Serão selecionadas apenas pesquisas clínicas randomizadas, que serão gerenciadas pelos softwares EndNote e Rayyan. Não haverá restrições temporais e/ou idiomáticas para a seleção dos estudos. A *string* de busca será realizada por dois revisores por meio de ferramentas validadas.

Palavras-chave: Recém-Nascido Prematuro; Mídia Audiovisual; Pais; Cuidadores; Características de residência.

RESUMEN

Objetivo: Identificar evidencias derivadas de ensayos clínicos aleatorizados que evaluaron la efectividad de las tecnologías de medios audiovisuales en el conocimiento de padres y familiares de recién nacidos prematuros en el ámbito domiciliario. Materiales y métodos: Protocolo de revisión sistemática elaborado según los Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P). La estrategia de este protocolo está registrada en el Open Science Framework. Las búsquedas se llevarán a cabo en el Portal de Revistas de la Coordinación para el Perfeccionamiento del Personal de Nivel Superior (CAPES), combinando los descriptores "Infant Premature", "Audiovisual Media", "Parents", "Residence Characteristics" y "Controlled Clinical Trial", junto con sus variaciones. Solo se incluirán ensayos clínicos aleatorizados, gestionados mediante los programas EndNote y Rayyan. No se aplicarán restricciones temporales ni de idioma en la selección de los estudios. La búsqueda será realizada de manera independiente por dos revisores utilizando herramientas validadas.

Palabras clave: Recién Nacido Prematuro; Medios Audiovisuales; Padres; Cuidadores; Características de la Residencia.

INTRODUCTION

Approximately 3 million neonatal deaths occur worldwide due to prematurity⁽¹⁾. The premature newborn (PTNB) is at greater risk of morbidity, mortality, and developmental delays, posing a major challenge for neonatal care. Thus, preterm birth significantly affects daily care, routine structuring, and parent-child interactions⁽²⁾.

Parental care, defined as parents' attitudes toward the PTNB's care and responsiveness, is a key determinant of its development. Family members' care of the newborn (NB) at home promotes significant changes in parents' routines⁽³⁾. Among the main demands parents report, doubts and concerns about feeding, hygiene, emotional aspects, and the newborn's health care stand out⁽¹⁾. One study reports a high rate of processed and non-recommended foods offered to the NB in the first two years of life, mainly associated with limited information and understanding, low maternal education, and low family economic status⁽⁴⁾.

In this context, the literature shows that hospital discharge planning for the PTNB should be individualized, recognize family needs, and focus mainly on reducing anxiety and strengthening self-confidence⁽⁵⁾.

Given the transition and adaptation of parents and the premature newborn (PTNB) to the home setting, care-related self-efficacy is relevant, since parents assume full responsibility for the child's care and follow-up after hospital discharge^(2,5). A study conducted in the United

States found that parents have less general anxiety about leaving the hospital to care for their baby when nurses provide support and training before discharge⁽²⁾.

In this regard, educational technologies have made complementary contributions to care and are used in various forms for health education, including printed materials, audiovisual resources, *serious games*, booklets, and dialogued stories (book), which can promote interactive and dynamic educational processes⁽⁶⁻⁸⁾.

In order to reduce fear and anxiety and strengthen parental self-confidence, there is an undeniable need to make use of technological devices in care, given that the literature aimed at families of premature neonates is scarce and mostly serves to support the identification of symptoms and the verification of data on the child's performance⁽⁶⁾.

Among many information and communication devices, audiovisual resources have become highly innovative and effective in the teaching-learning process because they can capture the audience's attention and encourage interactivity. Thus, audiovisual media is characterized as a grouping of visual and sound elements, that is, the combination of images with voices and/or music⁽⁷⁾.

Therefore, given the growing need to provide home care to families of PTNBs and the gaps in the literature on evidence for promoting parental care at home, randomized controlled

clinical trials may improve health-related outcomes for PTNBs and their families ⁽⁸⁻⁹⁾.

Thus, this systematic review aims to identify evidence from randomized clinical trials assessing the effectiveness of audiovisual media technology on parents' and family members' knowledge of premature newborn care in the home setting.

METHOD

Protocol and registration

Systematic review detailed in accordance with the *Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols* (PRISMA-P)⁽¹⁰⁾. The study protocol was registered in the *International Prospective Register of Systematic Reviews* (PROSPERO). The search strategy adopted is available at: https://osf.io/yk2cb/?view_only=1a6f83eb8a2543009e71e2b4651a1fa4⁽¹¹⁾.

Eligibility criteria

Randomized clinical trials, regardless of year or language, that describe evidence from audiovisual media on home care for PTNBs up to six months of corrected age, delivered by parents, family members, and caregivers in the home setting. Clinical trials will be considered in which the intervention group uses educational technology of the audiovisual media type and the control group receives usual health care. To this end, extremes of sex, age range, or ethnicity will not be considered. Interventions involving newborns with comorbidities or other

pathologies associated with prematurity, as well as other research designs, such as qualitative studies, action research, reviews, and phenomenological studies, among others, will be excluded.

Information sources

The following information sources will be consulted to obtain data: *Medical Literature Analysis and Retrieval System Online* (MEDLINE), *National Library of Medicine National Institutes of Health* (PUBMED), *Cochrane Central Register of Controlled Trials* CENTRAL (COCHRANE), Scopus, EMBASE, *Web of Science* (WOS), *Cumulative Index to Nursing and Allied Health Literature* (CINAHL), PsycINFO, Latin American and Caribbean Health Sciences Literature (LILACS), Virtual Health Library (BVS), and Nursing Database (BDENF).

Thus, the abstracts and full texts of each selected reference, as well as the references of the included studies, will be read. Sources include the Brazilian Library of Theses and Dissertations, Google Scholar, *ClinicalTrials.gov*, and the *Brazilian Registry of Clinical Tests*.

Development of the research question

The study question was based on the PICOS mnemonic (P, *Population*; I, *Intervention*; C, *Comparison*; O, *Outcomes*; S, *Study Design*)⁽¹²⁾ (Figure 1).

Figure 1 - Research question according to the PICOS mnemonic. Teresina, PI, Brazil, 2026.

PICO	COMPONENTS
Research question	What are the effects of audiovisual media technologies on the knowledge of parents, family members, and caregivers of premature newborns in the home setting?
Population	Premature newborns up to six months of corrected age under the care of parents, family members, and caregivers
Intervention	Audiovisual media, films, and videos designed to teach, instruct, or train
Comparator	Control group without the use of audiovisual media or receiving usual and/or standard care in conventional routine care
Outcomes	Knowledge, learning, and skills of parents, family members, and caregivers regarding home care
Study design	Randomized controlled clinical trials only

Search strategy

Two reviewers conducted the searches independently: a master's-level nurse and a specialist nurse, both with experience and expertise in the neonatal area. To identify additional studies, the search strategies were repeated immediately after the final analysis. The following were used: Health Sciences

Descriptors (DeCS), *Medical Subject Headings* (MeSH), *Emtree Thesaurus*, and key terms associated with the Boolean operators AND and OR. Figure 2 shows the search strategies conducted in three information sources on December 5, 2023, and updated on January 15, 2026, both initially performed in *MEDLINE* ⁽¹¹⁾.

Figure 2 - Descriptors and search terms used to identify information in the databases. Teresina, PI, Brazil, 2026.

CODE	DATA SOURCE	SEARCH EXPRESSION (P AND I AND C AND O AND S)
MeSH	MEDLINE/Pub Med	((("infant premature"[All Fields] OR "premature neonate"[All Fields]) AND (((((((("video-audio media") OR ("audiovisual media")) OR (video)) OR (multimídia)) OR ("health education")) OR ("communications Media")) OR ("instructional film and video")) OR ("audiovisual aids")))) AND (((((((Knowledge) OR (empathy)) OR (Parents)) OR (Caregivers)) OR ("Education, Nonprofessional")) OR (Family)) OR ("Health Education")) OR ("Residence Characteristics")))) AND (((("Controlled Clinical Trial"[Publication Type]) OR ("Clinical Trial"[Publication Type])) OR ("randomized controlled trial"[Publication Type]))

MeSH	*SCOPUS	((TITLE-ABS-KEY ("infant, premature") OR TITLE-ABS-KEY ("premature neonate"))) AND ((TITLE-ABS-KEY ("video-audio media") OR TITLE-ABS-KEY ("audiovisual media") OR TITLE-ABS-KEY (video) OR TITLE-ABS-KEY ("health education") OR TITLE-ABS-KEY ("communications Media") OR TITLE-ABS-KEY ("instructional film and video") OR TITLE-ABS-KEY ("audiovisual aids") OR TITLE-ABS-KEY (multimídia))) AND ((TITLE-ABS-KEY (knowledge) OR TITLE-ABS-KEY (empathy) OR TITLE-ABS-KEY (parents) OR TITLE-ABS-KEY (caregivers) OR TITLE-ABS-KEY ("Education, Nonprofessional") OR TITLE-ABS-KEY (family) OR TITLE-ABS-KEY ("Health Education") OR TITLE-ABS-KEY ("Residence Characteristics")))) AND ((TITLE-ABS-KEY ("Controlled Clinical Trial") OR TITLE-ABS-KEY ("Clinical Trial") OR TITLE-ABS-KEY ("randomized controlled trial")))
CINAHL Subject Headings	CINAHL	TX (TX (TX "Infant, Premature" OR TX "Infant, Small for Gestational Age" OR TX "Infant, Very Low Birth Weight") AND TX (TX "communications Media" OR TX (TX Videorecording OR TX ("Video-Assisted Techniques and Procedures") OR TX Audiovisuals TX) OR TX (Computer Assisted Instruction" OR TX Videoconferencing OR TX "Audiovisual Production")) AND TX (TX (TX Knowledge OR TX "Biological Parents" OR TX "Parental Attitudes") OR TX (TX "Caregiver Attitudes" OR TX "Parent-Infant Relations" OR TX "Parent-Child Relations") OR TX (TX (TX (TX "Parent-Infant Bonding" OR TX "Parental Behavior" OR TX Family) OR TX "Family Attitudes") OR TX (TX "Education, Nonprofessional" OR TX "health education" OR TX "Residence Characteristics")))) AND TX TX "Clinical Trials" OR TX "Randomized Controlled Trials"

^ΩScopus uses *Mesh* and *Emtree thesauri*

^αThe BVS uses the language *Decs*, *Mesh* and keywords.

^β(TS): Topic

Data management

The two researchers performed the searches and tests in the databases to identify the best search *string*. Initially, they used *EndNote Basic* reference management software. After excluding duplicate studies, the results will be

exported to *Rayyan*, a free *web* system that allows the researchers to blind-screen articles.

Study selection process

To select studies, the two reviewers will read the titles and abstracts of the retrieved

studies and assess them against the eligibility criteria. Next, both reviewers will read and evaluate the pre-selected studies in full. Finally, disagreements will be discussed by the reviewers and, in the absence of a common denominator, a third reviewer will be invited to resolve the disagreements. No AI tools were employed in this process.

Data extraction process

The data collected during the search process will be extracted using two tools⁽¹³⁻¹⁴⁾ based on four categories: I) General identification (Title, country, year of publication of the article, and journal impact factor); II) Methodological approach (design; research question or hypotheses; sampling, recruitment method, losses, follow-up duration, and statistics; III) Main results and implications for scientific knowledge and practice; and IV) Final considerations.

Outcome assessment

The study's central outcome is parents', family members', and caregivers' knowledge, learning, and skills in home care. The study will assess knowledge gained after the intervention regarding bathing care; actions for colic care and correct medication administration; soothing the baby when crying; umbilical stump cleaning, diaper changing, and dressing; and adherence to and follow-up of neonatal screening, among other home care-related areas.

Risk of bias assessment

The researchers will use the *Cochrane Collaboration Risk of Bias* (ROB) 2.0 tool to detect biases and, when identified, discuss them with the support of a newly invited independent reviewer⁽¹⁵⁾. The researchers will assess risk of bias based on the presence of different types of bias, including selection, information, non-response, recall, confounding, and reporting bias.

Data synthesis and analysis

For data synthesis, the software *Cochrane Review Manager* (RevMan), version 5.3, in its free version, was adopted. The results were analyzed using descriptive and qualitative synthesis. Data extraction included the following information from each study: authors, year of publication, country of origin, sample size, number of participants, gender distribution, mean age, clinical characteristics of participants (gestational age and weight of the premature neonate), intervention setting, characteristics of the application of audiovisual media in home care (in the control and intervention groups), main results, and implications for clinical practice.

The selection and flow of studies were presented using the PRISMA flowchart⁽¹⁰⁾. The general characteristics of the studies were summarized in tables, while methodological quality and risk of bias were assessed and presented in figures, allowing clear visualization of the included studies' internal validity.

Assessment of the quality of evidence

It will be guided by the Grading of Recommendations Assessment, Development and Evaluation Working Group (GRADE), using the software *GRADEpro*. Accordingly, the methodological quality of the reviews will be classified according to the assessment domains: studies that met nine or more criteria were classified as High Quality/Low Risk of Bias; those meeting seven to eight criteria, as Medium Quality/Moderate Risk of Bias; and those meeting six or fewer criteria, as Low Quality/High Risk of Bias.

Meta-analysis and heterogeneity

Heterogeneity among studies will be assessed qualitatively by comparing the clinical characteristics (population, intervention, and outcomes) and methodological characteristics of the included studies, and quantitatively, using the chi-square test (with a significance level of $p < 0.10$) and Higgins' I^2 index. The I^2 index will be interpreted as follows: values $\leq 50\%$ indicate low to moderate heterogeneity, whereas values $> 50\%$ indicate substantial heterogeneity⁽¹⁷⁾.

Meta-analysis will be performed only when studies show sufficient clinical and statistical homogeneity ($I^2 \leq 50\%$), using a random-effects model. When substantial heterogeneity ($I^2 > 50\%$) or important clinical differences among studies are identified, the findings will be synthesized narratively, without performing quantitative meta-analysis⁽¹⁷⁾.

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Data availability statement

No datasets were generated in this study. The information presented is described in the body of the article.

Conflict of interest statement

"None to declare."

Authorship criteria (author contributions)

Authorship designation must be based on ICMJE guidelines, which define an author as someone who: 1. contributes substantially to the conception and/or planning of the study; 2. to the acquisition, analysis, and/or interpretation of

data; and 3. to the drafting and/or critical revision and final approval of the published version.

Marcelo Victor Freitas Nascimento (1;2;3)

Marcia Teles de Oliveira Gouveia (1;3)

Marialda Moreira Christoffel (3)

Nathaly Marques Santos Machado (2)

Scientific Editor: Ítalo Arão Pereira Ribeiro.

ORCID: <https://orcid.org/0000-0003-0778-1447>