PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item
ADMINISTRATIVE INFORMATION		
Title:		
Identification	1a	Barriers and enablers of quality high-acuity neonatal care in sub-Saharan Africa: Protocol for a synthesis of qualitative evidence
Update	1b	N/A
Registration	2	Systematic review registration number in PROSPERO: CRD42023473134.
Authors:		
Contact	3a	Abera Mersha1, 2*, Asresash Demissie2, Gugsa Nemera2 1School of Nursing, College of Medicine and Health Sciences, Arba Minch University, Arba Minch, Ethiopia 2School of Nursing, Faculty of Health Sciences, Institute of Health, Jimma University, Jimma, Ethiopia
Contributions	3b	AM came up with the research question, wrote how the research would be done and the introduction, and created a plan for the research. AD and GN helped find information, and AM, AD, and GN all carefully reviewed and approved the final plan before it was sent for publication.
Amendments	4	The authors may need to make some changes to the systematic review, but they will clearly explain what those changes are and why they are necessary in the final review.
Support:		
Sources	5a	The authors did not declare any grant for this research from any funding agency.
Sponsor	5b	N/A
Role of sponsor or funder	5c	N/A
INTRODUCTION		
Rationale	6	Quality of care is defined as the extent to which healthcare services are delivered to improve desired health outcomes. To achieve this, the services must be safe, effective, timely, efficient, equitable, and person-centered [1]. Quality of neonatal care includes the availability of equipment, supplies, guidelines, protocols, and trained and motivated healthcare workers, as well as supportive supervision and client satisfaction [2-4]. The importance of high-quality care for newborns is increasingly recognized as essential for improving their health and well-being worldwide [3, 5, 6]. Despite the fact that the quality of care in neonatal intensive care units is compromised in many aspects, sub-Saharan Africa is facing a number of challenges in improving neonatal care [7, 8]. This is an alarming public health issue because it puts millions of newborns at risk of death and disability, staff burnout, missed nursing care for high-acuity neonates [9-11]. There are a number of potential barriers that hinder the quality of care and enablers that foster in NICU. The provider,

		caregiver and health system related barriers included inadequate knowledge and training, rigid division of roles and responsibilities, poor leadership, lack of effective communication, human resource constraints, inadequate equipment and clinical guidelines, poor documentation, and infrastructure, and economic insecurity of parents[12-22]. On the other hand, socio-cultural environment related barriers were patterns of interaction of the staff and parents and among staff, and power structure of the staff and leaders [23-25]. Making the care participatory, respectful, providing emotional support for parents, positive communication and using digital technologies were some of the facilitating factors for the quality of care in NICU [22, 24, 26, 27]. Enhancing the quality of NICU services in sub-Saharan Africa requires a multi-pronged approach that strengthens collaboration among various stakeholders, aligns quality of care plans with national infrastructure development strategies, and ensures adequate procurement of essential medicines and commodities [28]. While notable progress has been made in scaling up NICU quality in countries like Malawi, Ethiopia, and Rwanda over the past few decades[29], significant gaps remain in many sub-Saharan countries, necessitating continued efforts to improve service delivery, reduce neonatal mortality, and enhance parent and provider satisfaction. In this context, identifying the key barriers hindering service provision and the factors promoting positive outcomes is crucial. This systematic review aims to bridge the existing knowledge gaps regarding quality care for high-acuity neonates in sub-Saharan Africa. A preliminary search of relevant databases, including PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews, and the JBI Evidence Synthesis, revealed no ongoing or recently completed systematic reviews addressing this topic.
Objectives	7	The primary objective of this systematic review is to comprehensively examine the evidence about barriers and enablers that influence the quality high-acuity neonatal care in sub-Saharan Africa.
METHODS		
Eligibility criteria	8	The studies included in this systematic review will be selected based on the PICo mnemonic for participants, phenomena of interest, and context. Participants: The participants for this systematic review will be any individual (caregiver, parents, health professionals, etc.). Phenomena of interest: This systematic review will consider studies that explore barriers and enablers to quality high-acuity neonatal care in NICU. Context: The systematic review will include studies conducted in sub-Saharan Africa. Types of studies: This review will only include qualitative and mixed-methods studies that explore the barriers and enablers to quality high-acuity neonatal care using qualitative data collection and analysis methods.
Information sources	9	This systematic review will search and gather data from a variety of databases, including: JBI Database, Cochrane Database, MEDLINE/PubMed, CINAHL/EBSCO, EMBASE, PEDro, POPLINE, Proquest, OpenGrey (SIGLE), Google Scholar, Google, APA PsycINFO, Web of Science, Scopus and HINARI. In addition to published literature, unpublished studies and grey literature will be sought from institutional libraries and repositories, preprint websites, and by contacting the authors directly. A librarian will be consulted to assist with optimizing the search strategy.
Search strategy	10	

Table 1: Search strategy

PICo components	Inclusion criteria	Search terms (keywords/Mesh terms/index terms/Free text words)	Limits
Participants	Caregiver, nurses, parents, health professionals	nurse*[All Fields] OR caregiver*[All Fields] OR parent*[All Fields] OR health care provider*[MeSH Terms] OR health professional*[MeSH Terms] OR health care worker* [All Fields]	Language: English Publication date: January 1, 2013 to December 30, 2023
Phenomena of interest	Barriers and enablers to quality high-acuity neonatal care in NICU	barrier*[All Fields] OR enabler* [All Fields] OR facilitator*[All Fields] OR hindering factor*[All Fields] OR militating factor*[All Fields] OR challenge*[All Fields] OR neonatal intensive care unit [All Fields] OR NICU [All Fields] OR quality care [All Fields] OR high-acuity neonate*[All Fields]	
Context	Studies conducted in sub-Saharan Africa	sub-Saharan Africa	
Combine a single search strategy: ((("nurse*"[All Fields] OR "caregiver*"[All Fields] OR "parent*"[All Fields] OR (("delivery of health care"[MeSH Terms] OR ("delivery"[All Fields] AND "health"[All Fields] AND "care"[All Fields]) OR "delivery of health care"[All Fields] OR ("health"[All Fields] AND "care"[All Fields]) OR "health care"[All Fields]) AND "provider*"[MeSH Terms]) OR (("health"[MeSH Terms] OR "health"[All Fields] OR "health s"[All Fields] OR "healthful"[All Fields] OR "healthfulness"[All Fields] OR "healths"[All Fields]) AND "professional*"[MeSH Terms]) OR "health care worker*"[All Fields]) AND "barrier*"[All Fields]) OR "enabler*"[All Fields] OR "facilitator*"[All Fields] OR "hindering factor*"[All Fields] OR "militating factor*"[All Fields] OR "challenge*"[All Fields] OR ("intensive care units, neonatal"[MeSH Terms] OR ("intensive"[All Fields] AND "care"[All Fields] AND "units"[All Fields] AND "neonatal"[All Fields]) OR "neonatal intensive care units"[All Fields] OR ("neonatal"[All Fields] AND "intensive"[All Fields] AND "care"[All Fields] AND "unit"[All Fields]) OR "neonatal intensive care unit"[All Fields]) OR ("intensive care units, neonatal"[MeSH Terms] OR ("intensive"[All Fields] AND "care"[All Fields] AND "units"[All Fields] AND "neonatal"[All Fields]) OR "neonatal intensive care units"[All Fields] OR "nicu"[All Fields]) OR ("quality of health care"[MeSH Terms] OR ("quality"[All Fields] AND "health"[All Fields] AND "care"[All Fields]) OR "quality of health care"[All Fields] OR ("quality"[All Fields] AND "care"[All Fields]) OR "quality care"[All Fields]) OR ("high-acuity"[All Fields] AND "neonate*"[All Fields])) AND ("africa south of the sahara"[MeSH Terms] OR ("africa"[All Fields]		

		AND "south"[All Fields] AND "sahara"[All Fields]) OR "africa south of the sahara"[All Fields] OR ("sub"[All Fields] AND "saharan"[All Fields] AND "africa"[All Fields]) OR "sub saharan africa"[All Fields]) AND 2013/01/01:3000/12/31[Date - Publication]
		Number of records retrieved by the search: 83,877
		Database used: MEDLINE (Ovid)
		Search conducted on: Date: November 05, 2023; **Time:** 10:25:48
Study records:		
Data management	11a	EndNote X8 and QARI
Selection process	11b	Following the search, all identified citations will be collated and uploaded into EndNote and duplicates removed. After pilot test, title and abstract screening process, followed by two independent reviewers screening all titles and abstracts against the inclusion criteria. The inclusion criteria for the review will be used to determine if the citations are relevant. The full texts of the potentially relevant sources will then be retrieved. Two independent reviewers will assess the full texts of the retrieved studies to determine if they meet the inclusion criteria for the review. If a study is excluded, the reasons for exclusion will be recorded and reported in the systematic review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion. The final systematic review will fully report search and study selection results, adhering to the ENTREQ format for transparency [33].
Data collection process	11c	Data extraction from the studies included in the review will be conducted by two independent reviewers using the standardized JBI data extraction tool [30]. The data extracted will encompass specific details pertaining to the populations, context, culture, geographical location, study methods, and the phenomena of interest relevant to the review objective (Supplementary file 2). Findings and their corresponding illustrations will be extracted verbatim and assigned a level of credibility. Discrepancies arising between the reviewers will be resolved through discussion. Authors of the papers will be contacted to solicit missing or additional data when necessary.
Data items	12	The studies included in this systematic review will be selected based on the PICo mnemonic for participants, phenomena of interest, and context. Participants: The participants for this systematic review will be any individual (caregiver, parents, health professionals, etc.). Phenomena of interest: This systematic review will consider studies that explore barriers and enablers to quality high-acuity neonatal care in NICU. Context: The systematic review will include studies conducted in sub-Saharan Africa.
Outcomes and prioritization	13	Barriers and enablers of quality high-acuity neonatal care
Risk of bias in individual studies	14	Eligible studies will be critically appraised by two independent reviewers for methodological quality using the standard JBI Critical Appraisal Checklist for Qualitative Research [30]. Authors of papers will be contacted to request missing or additional data for clarification, where required. Any disagreements that arise will be resolved through discussion. The results of critical appraisal will be reported in narrative form and in a table. Studies will be scored using a quality appraisal checklist, and only studies with a score of 50% or higher will be included in the systematic review and meta-synthesis. If the two assessors disagree on a score, they will review the study together to investigate the source of the disagreement. If they are still unable to agree, the average of their scores will be used. Studies that do not meet the quality threshold to merit inclusion will be excluded from the systematic review and meta-synthesis, but they will be reported narratively and in table

		form.
Data synthesis	15a	Studies will be scored using a quality appraisal checklist, and only studies with a score of 50% or higher will be included in the systematic review and meta-synthesis.
	15b	Qualitative research findings will, where possible, be pooled using QARI with the meta-aggregation approach. This will involve the aggregation or synthesis of findings to generate a set of statements that represent that aggregation, through assembling the findings and categorizing these findings on the basis of similarity in meaning. These categories will then be subjected to a synthesis in order to produce a single comprehensive set of synthesized findings that can be used as a basis for evidence-based practice.
	15c	N/A
	15d	Where textual pooling is not possible the findings will be presented in narrative form. The synthesis will focus solely on unequivocal and credible findings. Unequivocal findings are considered beyond reasonable doubt, while credible findings are plausible and well-supported, even if not definitive.
Meta-bias(es)	16	N/A
Confidence in the findings	17	The synthesized findings will undergo evaluation using the ConQual approach, a method for establishing confidence in the output of qualitative research synthesis. The resulting assessment will be presented in a Summary of Findings table [34].

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**