Understanding Barriers and Different Approaches to Intervene Quality of Home Based Neo-natal Care : A Rapid Review

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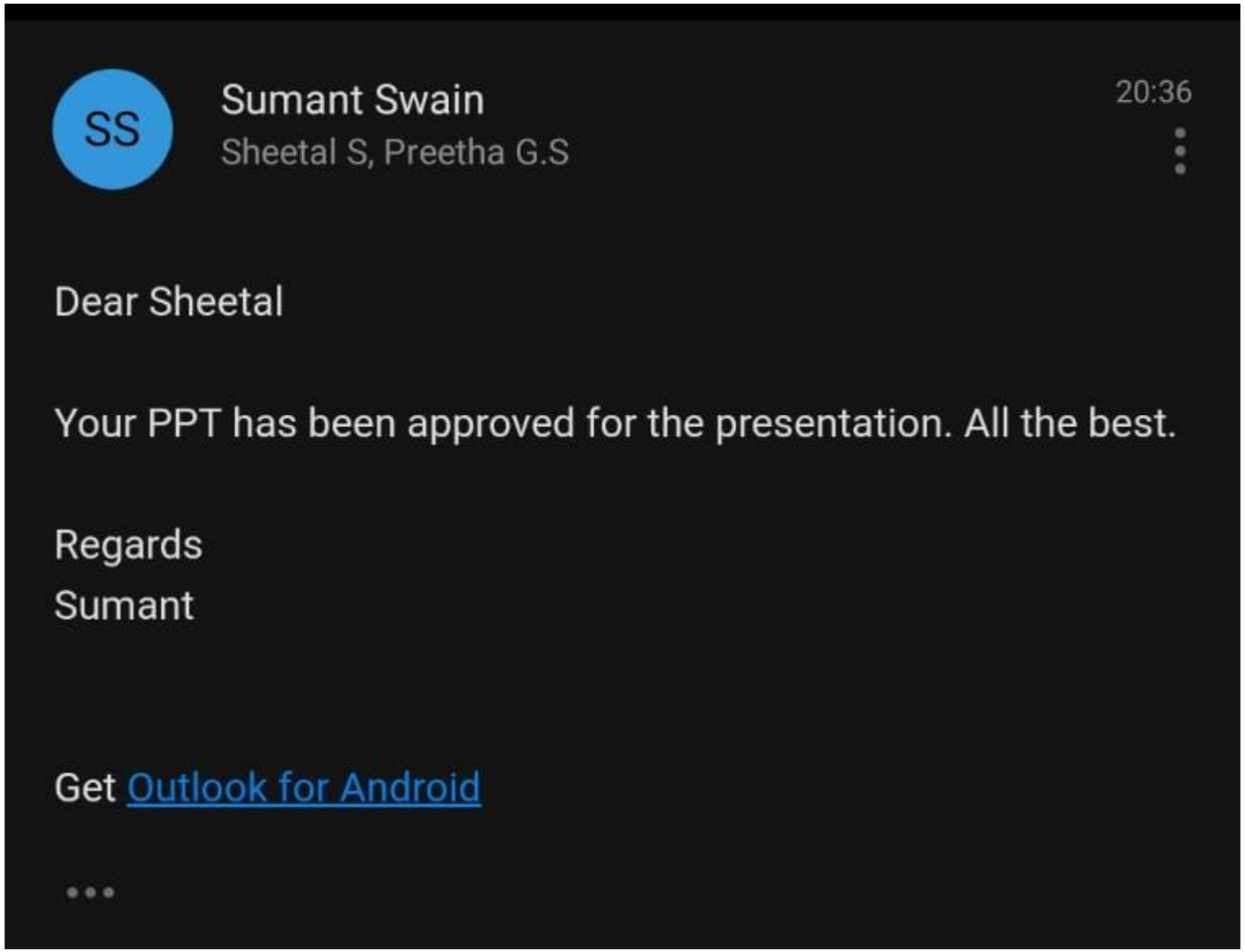
Mentor Approval:



Introduction

Background:

- Health status of the country well represented by maternal and infant mortality rate. (1)
- Globally, it is estimated that 2.5 million neonates die in their first month of life, where India alone contributes to 600,000 neonatal deaths. (2)
- It is estimated that, of 1 million newborn deaths worldwide, around 60% occurred due to poor quality of care. (3)
- The Lancet Global Health Commission report on high-quality health systems mentions that the universal health coverage strategy, without quality, is not sufficient to improve health in LMICs. (4)

1. World Health Organization. Maternal mortality. Genève, Switzerland: World Health Organization; 2021. Available from: https://www.who.int/europe/news-room/fact-sheets/item/maternal-mortality

2. Mortality rate, neonatal (per 1,000 live births) - India | Data. https:// data. world bank. org/ indic ator/ SH. DYN. NMRT? locat ions=IN.

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Government initiatives:

- Importance of home-visits to improve neo-natal care was first shown in Gadchiroli, Maharashtra.
- In 2011, Home-based Neonatal Care was launched, this program focused on ASHAs trainings, conducted in four rounds using two modules.
- Includes 6-7 visits till 42 days of newborn by Accredited Social Health Activists (ASHAs).
- Government piloted additional visits quarterly till 12 months in HBNC plus program
- Additional visit at 15 months of age under Home based care for Young Child.

Rationale:

- The launched programmes has led to improvement in neonatal health and mortality rate.
- GOI has agreed to ambitious goals of SDGs, which targets to reduce the Neonatal mortality rate (NMR) less than 12 per 1000 live births by 2030.
- This requires modification and innovation in the existing programmes.
- This review focuses to identify the issues of home visits care provision and on compiling all the initiatives taken by any of the health care center to improve HBNC.
- Hence, this review would help identify benefits and gaps in model and this knowledge can further be disseminated and utilized by other districts across health care facilities.

Objectives:

Primary Objective:

- To compile various approaches to intervene the quality of Home Based Neo-natal care.

Secondary objectives:

- To identify the barriers related to home-based care provision.
- To understand the effect of various methods on quality of Home Based Neo-natal Care

Methodology:

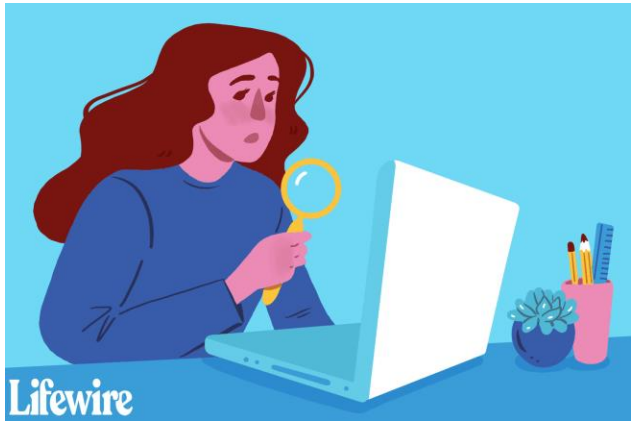
- Study design: Secondary research
- Types of studies: Descriptive, Observational and Experimental studies. The studies were either full text or abstract only, published, or unpublished data.
- Types of participants: Neonates
- Types of interventions: Implementation of any quality improvement method for home-based care in any district in India
- Type of Outcome: Effect or modification In quality of HBNC

Search methods for identification of studies:

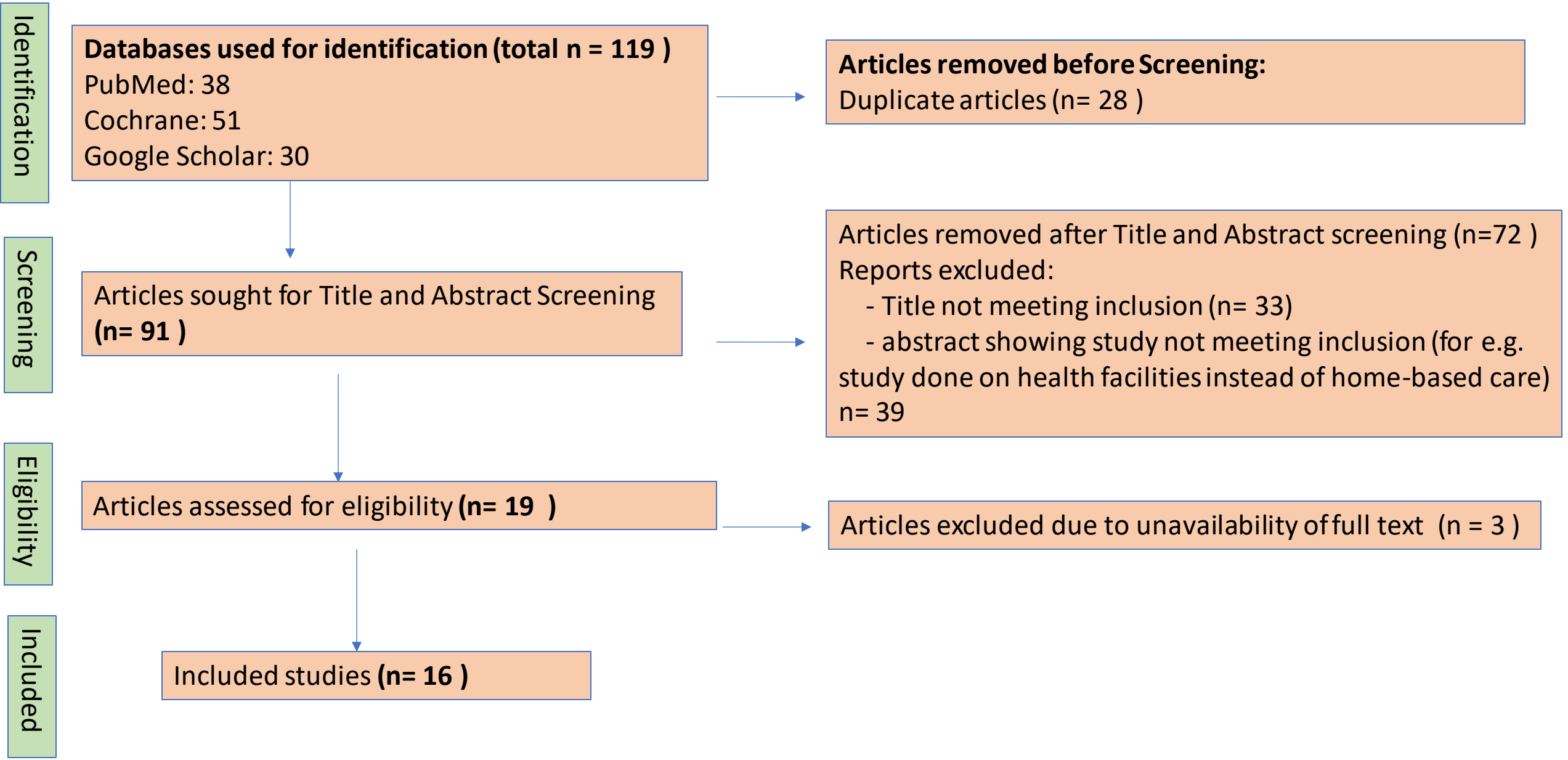
- Electronic database searches included PUBMED, COCHRANE, and Google Scholar. Keywords such as “Quality” OR “barriers” AND “neonate” OR “newborn” OR “neonatal” AND “home-based care” OR “home-visits” OR “home care” OR “home based” AND “India” were used for searches.
- Joanna Briggs (JBI) tool was used to critically appraise the articles.
- The papers not fulfilling the protocol criteria were excluded.

Ethical considerations:

- Secondary research – free of ethical concerns.



PRISMA flow diagram:



Results & Discussion

Barriers to home-based neonatal care: (1/2)

Year & Journal	Authors	Results
Front. Public Health, 2022	*Deshmukh et al.*	- Socio-cultural factors (caste, economic divide and religious beliefs along with family related challenges of ASHA) - Educational factors (capacity building, communication and technical skills) - Organizational issues (supportive supervision, planning and management of field activities, availability of supplies) - Economic issues (Incentives & availability of resources) - Physical issues (ASHAS mobility)
CRM Report, 2017	*11th common review mission. NHM. MoHFW*	- ASHAs were able to detect only 2% of sick newborns, follows up to SNCU discharged babies to 6.8%. - Inadequate supportive supervision of ASHA for implementation of HBNC was observed in all states.

Barriers to home-based neonatal care: (2/2)

Year & Journal	Authors	Results
Indian Pediatr. 2016 Leadersh Health Serv. 2016	*Bansal et al.* *Shrivastava et al.*	Despite formal trainings and module conduction, ASHAs lack adequate competency and communication skills Even with 5 days training, ASHAs failed to follow proper guidelines of HBNC, this shows that mere training is not sufficient to improve the quality.
J Perinatol. 2016	*Chauhan et al.*	Issues are commonly related to logistics, lack of skilled manpower, weak monitoring and supervision systems.
NIPI report, 2014		Home visitation by ASHA under HBNC and HBNC plus program are both inadequate and poor in quality with less than 10% of sick newborns being mobilized to facilities by FLW.
Indian Pediatr. 2014 J Family Med Prim Care, 2021	*Das et al* *Phatak A G et al* *Pathak et al*	80% instances ASHAs failed in comprehensive assessment and diagnosis of illness in the newborns ASHAs deficit technical skills, with not being able to perform bag and mask, KMC skills. Deficient in basic skills – weight & temperature measurement.

Implemented techniques: (1/2)

Year & Journal	Authors	Results:
Midwifrey, 2022	*Devi et al*	Re-education and training: KAP significantly improve after the intervention regarding hypothermia from 80% to 95%, KMC importance from 56% to 87%, skills for early diagnosis of high-risk newborns improved.
J Global Health,2021	*Lewis et al.*	Home based neonatal care plus: Rajasthan, Madhya Pradesh, Odisha and Bihar. Increase in visits had no detectable effect on key outcome of feeding practices, handwash, ORS supplementation, growth monitoring and immunization. Significant change in IFA supp.
Indian J of Pediatrics, 2019	*Goel et al.*	Multi-interventional approach: - Technical skill enhancement of ASHAs using live demonstrations, videos, and case studies. - Group discussions, role plays and lectures to improve the communication skills. - Supportive supervision to ASHAs through post-training field visits. - Provision of logistic and technical support to conduct community meetings. - Reinforcement of messages for mothers and other family members, by provision of gift items such as soap for handwashing, gown for breastfeeding, cap for thermal care, t-shirt and bag for involvement of other family members.

Implemented techniques: (2/2)

Year & Journal	Authors	Results:
Advances in Medical Education and practice, 2019	*Gupta et al*	**Micro-teaching:** 12 ANM trained using micro-teaching - Videos were recorded of ANMs, while they performed HBNC services. Later these recordings were displayed in classroom, where individuals observed their performance. In addition, a **one-day review** and **in class and at home training sessions** were arranged to **retrain** the health workers. The gaps in the performance were rectified by demonstration of right methods by investigators and supervisors.
Sex Repro Healthc.,2018	*`Mozumdar et al*	**Training Self-Help Groups:** Increase in knowledge of women to identify danger signs
National Medical Journal of India, 2011	*Garg et al*	**Additional cadre:** Assessed the benefits of combined care provision by ASHA and Yashoda and stated that exposure of mothers to Yashoda and ASHAs had significant improvement of almost 3 times on newborn care indicators associated with counselling and practice.

Conclusion:

- The study was successful in understanding the barriers to HBNC and compile the interventions to improve the quality from existing literature.
- However, the study was unable to quantify the impact of these interventions, due to limited availability of literature.
- There requires immediate action to improve the quality of HBNC provision for achieving SDG 2030.
- Multi-interventional approach with strong governance remains the key for future growth.

Way Forward:

- To scale up, there should be participatory learning activities of community with supportive supervision.
- Linking of government with other organizations (private and NGO)
- Regular meetings among the health care workers to prioritize and address the issues
- Collaborative learning and virtual use of digital technology to reach healthcare provider via virtual e-Learning and smartphone applications
- SBCC to remove socio-cultural beliefs
- Effective governance with focus on strengthening the existing programmes.

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Annexure: (1/3)

Database search: PubMed:

Search number	Query	Sort By	Filters	Search Details	Results
6	(((#2) AND (#3)) AND (#4)) AND (#5)			("newborn"[Title/Abstract] OR "neonates"[Title/Abstract] OR "neonatal"[Title/Abstract]) AND ("home based care"[Title/Abstract] OR "home visits"[Title/Abstract] OR "home based"[Title/Abstract] OR "home care"[Title/Abstract]) AND ("quality"[Title/Abstract] OR "barrier"[Title/Abstract] OR "issues"[Title/Abstract]) AND ("india"[MeSH Terms] OR "india"[All Fields] OR "india s"[All Fields] OR "indias"[All Fields])	38
5	india			"india"[MeSH Terms] OR "india"[All Fields] OR "india s"[All Fields] OR "indias"[All Fields]	767,040
4	((quality[Title/Abstract]) OR (barrier[Title/Abstract])) OR (issues[Title/Abstract])			"quality"[Title/Abstract] OR "barrier"[Title/Abstract] OR "issues"[Title/Abstract]	1,930,697
3	(((home based care[Title/Abstract]) OR (home visits[Title/Abstract])) OR (home based[Title/Abstract])) OR (home care[Title/Abstract])			"home based care"[Title/Abstract] OR "home visits"[Title/Abstract] OR "home based"[Title/Abstract] OR "home care"[Title/Abstract]	42,270
2	((newborn[Title/Abstract]) OR (neonates[Title/Abstract])) OR (neonatal[Title/Abstract])			"newborn"[Title/Abstract] OR "neonates"[Title/Abstract] OR "neonatal"[Title/Abstract]	407,406

Annexure (2/3)
Database search: Cochrane

ID	Search	Hits
#1	(newborn):ti,ab,kw OR (neonate):ti,ab,kw OR (neonatal):ti,ab,kw	41951
#2	(home based care):ti,ab,kw OR (home visits):ti,ab,kw OR (home based):ti,ab,kw OR (home care):ti,ab,kw	39200
#3	(quality):ti,ab,kw OR (barrier):ti,ab,kw OR (issues):ti,ab,kw	245133
#4	(India)	32233
#5	#1 AND #2 AND #3 AND #4	51

Annexure (3/3) Appraisal tool

JBI CRITICAL APPRAISAL CHECKLIST FOR QUASI-EXPERIMENTAL STUDIES

Reviewer_____ Date_____

Author_____ Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
1. Is it clear in the study what is the 'cause' and what is the 'effect' (i.e. there is no confusion about which variable comes first)?	☐	☐	☐	☐
2. Were the participants included in any comparisons similar?	☐	☐	☐	☐
3. Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	☐	☐	☐	☐
4. Was there a control group?	☐	☐	☐	☐
5. Were there multiple measurements of the outcome both pre and post the intervention/exposure?	☐	☐	☐	☐
6. Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?	☐	☐	☐	☐
7. Were the outcomes of participants included in any comparisons measured in the same way?	☐	☐	☐	☐
8. Were outcomes measured in a reliable way?	☐	☐	☐	☐
9. Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (including reason for exclusion)

Thank you