



REVIEW PROTOCOL ARTICLE

Effectiveness of Creating Opportunities for Parent Empowerment (COPE) on Stress, Anxiety, Coping and Competence among Mothers of Hospitalized Preterm Neonates in NICU: A Systematic Review Protocol

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Abstract

This review aims to evaluate the effectiveness of Creating Opportunities for Parent Empowerment (COPE) on stress, anxiety, coping and competence among the mothers of preterm neonates admitted in Neonatal Intensive Care Unit (NICU). Over the last decade, premature birth rates have been steadily rising and owing to the technological advances, even survival of the extreme preterm babies is a possibility. As many preterm babies thrive and survive, focus must also be given to the parents, especially the mothers who deliver before their estimated time of delivery. It is believed that most of the mothers undergo emotional turmoil as they are mentally not prepared for it. At times, mothers feel helpless and reduced maternal confidence may lead to poor outcomes in the preterm baby care. Helping mothers to deal with this phase is essential. Coping strategies and support received from such mothers differ from place to place. Studies have been conducted for improving the coping of mothers with preterm babies and COPE has been highlighted as a useful strategy for better maternal adaptation. The findings of this review may help explore the outcomes of COPE program in alleviating the maternal emotional distress. This review will utilize studies that have used COPE program and its effect on mothers with preterm in the NICU on the stress, anxiety, coping and competence. The studies can be true/quasi-experimental in nature. Research papers that evaluate any of the components of stress, anxiety, coping, and competence will be considered. Both published and unpublished papers will be included in the review. MEDLINE, Embase, CINAHL, the Cochrane Library, Cochrane Central Register of Controlled Trials, Google Scholar, J-gate, Dissertation Abstracts International, ProQuest, Dissertations and Theses are the main databases to be searched. The methodological merit of each study will be evaluated critically by two independent reviewers. Where possible, studies will be combined in a statistical meta-analysis.

Keywords: COPE, Stress, Anxiety, Coping, Competence, NICU mothers, Preterm neonates

Introduction

The survival of preterm infants in this era has better outcome due to the advancements in technology and treatment modalities.¹⁻³ Parents however experience varied levels of guilt, sadness, hostility, helplessness, depression, anxiety and feeling of loss of confidence.⁴ Also the duration and cost of hospitalization can further alter the family's mental and physical health status.⁵ Mothers need to feel confident in their role as primary caregiver and interventions promoting them could be beneficial towards them.

The Creating Opportunities for Parent Empowerment (COPE) program is centered on education and behavioral intervention and was created with the idea of offering supportive parental interventions for the benefit of parents, newborns, and their families.⁶⁻⁸ It comprises of audiotapes about how their baby looks and behaves in the Neonatal Intensive Care Unit (NICU) and also how parents can contribute towards caring for their preterm baby and help meet their needs. The other component in this program focusses on skills-building activities that guide parents implement the educational information using workbook.⁹

Systematic reviews were undertaken related to interventions on early neurodevelopmental outcomes of children and effectiveness of early neurodevelopmental interventions in preterm infants.^{10,11} Additionally, extensive review was undertaken in the area of developmentally supportive care for preterm neonates.¹² Mothers who received COPE interventions have reported stronger parental role and confidence in caring for their neonates.⁹ Also studies have shown better coping abilities among mothers with gradual reduction of stress and anxiety levels.¹³⁻¹⁴ The reviewed studies showed improved outcomes among the mothers caring for their infants in the NICU.

Review question

Is COPE program effective in reducing maternal stress, anxiety, coping and improve their competence levels in NICU?

Inclusion criteria

Participants

The participants will be mothers of preterm neonates receiving COPE intervention while in NICU. Studies involving fathers and other family members will be

excluded as the outcome parameters are focused on maternal outcome.

Interventions

This review will analyze studies that used Creating Opportunities for Parent empowerment (COPE) program interventions. These interventions should be implemented among the mothers of infants admitted to NICU.

Comparators

The comparator will be the COPE interventions with the standard/ routine NICU care. Hence the studies that include intervention with COPE and control group with routine care will be taken into consideration.

Outcomes

The outcome determined will be related to maternal outcomes such as stress, anxiety, coping and their competence levels after implementation of COPE.

Types of studies

Experimental study designs that include Randomized controlled trial (RCT), quasi-experimental, pre-test post-test design with the control group will be considered in the review.

Methods

The proposed systematic review will follow the guidelines as per the Joanna Briggs Institute (JBI) methodology for systematic reviews.¹⁵

Search strategy

The methods that will be employed for conducting the search will be aimed at obtaining both published and unpublished research studies. A primary search with PUBMED database was performed in order to provide outline on the topic and identify the articles published. The title text including COPE interventions were selected and the index were considered to develop a scheme for search strategy in MEDLINE (Appendix 1). The search strategy will include all keywords and index terms related to COPE interventions and maternal outcomes available through the databases. The screening of reference will also be done for effective review.

The search databases for the review will include: PubMed Central, Embase, CINAHL and Cochrane Central Register of Controlled trials. We will also take into account the unpublished papers from Proquest Dissertation and Theses, MedNar, Dissertation

Abstracts International, and Google Scholar. The studies that are published in English language only will be considered.

Study selection

All identified citations will be fed in EndNote and duplicates will be eliminated. Then the process of screening will be done by two independent reviewers based on titles and abstract and then by full-text. All segregated relevant studies will be retrieved in full and the citation details will be stored into JBI system (JBI SUMARI; JBI, Adelaide, Australia).¹⁶ Two independent reviewers will then scrutinize the entire texts of the chosen citations while taking the study's inclusion criteria into account. The systematic review will track and report on the studies that were excluded. At any point during the review process, if there are any differences between the independent reviewers, consultation with the additional reviewer will be done. The final systematic review will be presented through Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.¹⁷

Assessment of methodological quality

The methodological quality of search will be maintained as per the JBI standards for experimental and quasi experimental studies.¹⁵ The eligible studies will undergo systematic process of reviewing by the reviewers. The authors will be contacted if required for the missing or additional clarifications related to their research work. The findings of the systematic review will be presented in table form as applicable.

Data extraction

Data will be derived from studies that fulfil the inclusion criteria and are reviewed using the standardized JBI extraction tool.¹⁶ Information regarding the populations, research techniques, interventions, and results pertinent to the review purpose will be included in the extracted data. If any further clarifications are needed in a particular study, the authors will be contacted.

Data synthesis

The data will be organised based on the analyses pattern of the studies. All the obtained results will then be compiled and statistically presented with either odds ratio or post-test mean differences at 95% confidence intervals. The subgroup analyses based on stress, anxiety, coping and competence among mothers related to COPE interventions will be investigated in detail. The findings when difficult to express in terms of

tables, will be described using narrative form. In the event that a meta-analysis contains more than ten studies, a funnel/forest plot will be created to assess publication bias. Statistical tests for funnel plot asymmetry will be conducted as needed.¹⁸

Assessing certainty in the findings

The findings obtained in the review will be summarised using Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach.¹⁹ The findings related to stress, anxiety, coping and competence of mothers will be summarised and discussed based on the reviews. The detailed findings will estimate the outcome of COPE interventions in the treatment and control groups and the standard of the research-based evidence on the likelihood of bias, clarity and heterogeneity of the review results.

Systematic review registration number: PROSPERO ID- CRD42023444030

Conflict of Interest

None

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Appendix 1: Initial Search Strategy

Pubmed Central

Search conducted: 10/10/2023

Searches	Key search	Results retrieved
1.	(Creating Opportunities for Parent Empowerment (COPE)) OR (mothers of preterm neonates) OR (preterm neonates admitted in NICU) OR (maternal outcomes)	336827
2.	(Creating Opportunities for Parent Empowerment (COPE)) AND (mothers of preterm neonates) AND (preterm neonates admitted in NICU) AND (maternal outcomes)	115

3.	Neonatal intensive care unit	80897
4.	Search (Neonatal Intensive Care Unit) AND preterm neonates*	8895
5.	Search (Creating Opportunities for Parent Empowerment (COPE) in preterm neonates OR preterm infants) NOT (Parent empowerment in children)	143678
6.	Search (Neonatal intensive care unit) AND (preterm infants*)	20738
7.	(Preterm infants in NICU) NOT (term neonates in NICU)	7199
8.	(Creating opportunities for parent empowerment) AND maternal outcome	1397
9.	(Creating opportunities for parent empowerment) AND maternal coping	1156
10.	(Creating opportunities for parent empowerment) AND maternal stress	1479
11.	(Creating opportunities for parent empowerment) AND maternal competence	697
12.	Creating Opportunities for Parent Empowerment (COPE) NOT Parent empowerment	0
13.	((Neonatal intensive care unit) AND (preterm infants OR preterm neonates)) AND maternal coping	2385
14.	((Neonatal intensive care unit) AND (preterm infants OR preterm neonates)) AND (maternal stress OR anxiety)	11208
15.	((Neonatal intensive care unit) AND (preterm neonates OR infants)) AND (maternal stress OR anxiety)	14943
16.	Search ((neonatal intensive care unit) AND (preterm neonates OR preterm infants)) AND maternal competence	1763
17.	((((Creating Opportunities for Parent Empowerment (COPE) AND mothers of preterm neonates in NICU) AND (maternal stress and anxiety))) OR maternal coping) OR maternal competence	99046
18.	((Creating opportunities for parent empowerment (COPE)) AND maternal interventions) AND preterm neonates in NICU	179
19.	((Creating opportunities for parent empowerment (COPE)) AND maternal interventions) AND preterm infants	269
20.	((((Creating Opportunities for Parent Empowerment (COPE)) AND mothers of preterm neonates in NICU) AND (maternal stress and anxiety)) AND maternal coping) AND maternal competence	63