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The Role of Social Support and Nursing Interventions in Improving Mental Health and Empowerment of Mothers with Infants Admitted to the Neonatal Intensive Care Unit: A Narrative Review

Fatemeh Mehrabirad[1], Mandana Saki[2*]

[1] Social Security Hospital, Khorramabad, Lorestan, Iran
[2] Department of Nursing, School of Nursing and Midwifery, Social Determinants of Health Research Center, Lorestan University of Medical Sciences, Khorramabad, Lorestan, Iran

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ABSTRACT

Neonatal admission to the neonatal intensive care unit (NICU) represents a profoundly stressful experience for mothers, leading to significant psychological sequelae including anxiety, depression, and disruption of mother–infant attachment. This structured narrative review examined the role of social support and nursing interventions in promoting the mental health and empowerment of mothers of infants admitted to the NICU. A structured literature search was conducted in English and Persian publications published between 2011 and the date of the literature search in 2026. Eligible original and review articles were independently screened by two reviewers, and the findings were narratively synthesized into thematic categories. These mothers experience significantly higher levels of depression, anxiety, and post-traumatic stress than mothers of healthy neonates, with psychological sequelae persisting months following discharge. Social support independently moderates the relationship between stress and adverse psychological outcomes. Educational programs grounded in Bandura's self-efficacy theory, family-integrated care, skin-to-skin contact, and brief cognitive-behavioral interventions demonstrate efficacy in reducing distress and promoting empowerment with outcomes extending to improved mother–infant attachment, breastfeeding continuity, and neonatal developmental indices. In conclusion, social support and nursing interventions may help reduce psychological distress and enhance empowerment among mothers of NICU infants.

Keywords: Mothers; Neonatal Intensive Care Unit; Mental Health; Social Support; Nursing Interventions

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Introduction

Neonatal admission to the neonatal intensive care unit (NICU) represents a highly stressful experience for mothers and may contribute to psychological difficulties, including anxiety, depression, stress, and impaired mother–infant attachment [1-4]. The postpartum period is a critical stage for maternal health, and the world health organization (WHO) emphasizes that adequate healthcare and social support during this period are essential for promoting maternal well-being and reducing health risks [5, 6]. In

* Corresponding author: Department of Nursing, School of Nursing and Midwifery, Social Determinants of Health Research Center, Lorestan University of Medical Sciences, Khorramabad, Lorestan, Iran. Email: Mandana_saki@yahoo.com

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this context, nurses, as healthcare providers who maintain continuous contact with mothers, infants, and families, have an important role in identifying maternal needs and facilitating supportive care [7-9].

Previous studies have investigated various supportive approaches aimed at improving maternal psychological outcomes during the postpartum period. These approaches include educational programs, counseling interventions, family-oriented support, and psychological interventions, which have demonstrated potential benefits in reducing maternal distress and enhancing coping abilities [10]. Among mothers of infants admitted to the NICU, interventions such as family-centered care, kangaroo mother care, skin-to-skin contact, and psychological support have been explored to promote maternal participation, confidence, and empowerment [11-13].

Previous systematic and narrative reviews have highlighted the importance of psychosocial support and supportive interventions for mothers and parents of infants hospitalized in the NICU. These reviews have provided valuable evidence regarding the potential benefits of specific interventions; however, many have focused on particular types of support, individual intervention approaches, or limited psychological outcomes. Furthermore, the integration of different dimensions of social support (emotional, informational, instrumental, and appraisal support) with the broader role of nurses in promoting maternal mental health and empowerment has not been sufficiently summarized. Therefore, a comprehensive understanding of how nursing interventions and social support approaches contribute to maternal empowerment in the NICU context remains needed.

Therefore, this narrative review was conducted to synthesize existing evidence regarding the role of social support and nursing interventions in promoting the mental health and empowerment of mothers with infants admitted to the Neonatal Intensive Care Unit (NICU).

Materials and Methods

This study was designed as a structured narrative review to examine the role of social support and nursing interventions in promoting the mental health and empowerment of mothers of infants admitted to the NICU. Although the review was not conducted as a formal systematic review, a structured literature search and a transparent study selection process were adopted to improve the comprehensiveness, transparency, and reproducibility of evidence identification.

A structured literature search was conducted in PubMed, Scopus, Web of Science, Google Scholar, Magiran, and SID using the keywords mothers, NICU, social support, nursing interventions, mental health, and empowerment, combined with Boolean operators (AND/OR). Studies published between 2011 and the date of the literature search in 2026, in English or Persian, were considered eligible for inclusion.

Eligible publications included original research articles as well as relevant review articles (systematic, narrative, and integrative reviews) addressing social support and nursing interventions aimed at promoting the mental health and empowerment of mothers of infants admitted to the NICU. Review articles were included to provide contextual background, identify key concepts, and complement the interpretation of evidence derived from primary studies. Case reports, student theses, publications unrelated to the objectives of the review, and studies without accessible full texts were excluded.

To enhance the rigor of the literature identification and selection process, all retrieved records were imported into EndNote reference management software, and duplicate records were removed. Subsequently, titles, abstracts, and full texts were independently reviewed by two reviewers to determine their relevance to the objectives of this narrative review. Any disagreements regarding study selection were resolved through discussion until consensus was reached. To improve the transparency of the literature identification and selection process, a flow diagram adapted from the PRISMA framework was used. However, the use of this flow diagram was intended solely to improve reporting transparency and should not be interpreted as indicating that the present study followed the full methodology of a systematic review.

Because the primary objective of this study was to provide a narrative synthesis of the available evidence rather than to evaluate the methodological quality or certainty of the evidence, no formal methodological quality assessment or risk-of-bias appraisal using standardized critical appraisal tools was performed. Instead, the included studies were critically evaluated according to the credibility of the publication source, the clarity of the reported methodology, and the relevance of their findings to the objectives of the present review.

Data extracted from the included studies included the first author's name, publication year, country, study design, type of evidence, and the principal findings related to social support and nursing interventions for mothers of infants admitted to the NICU.

The extracted findings were synthesized narratively and organized into thematic categories based on

conceptual similarities. Review articles were used to complement evidence from primary studies and were interpreted cautiously to minimize duplication of evidence and reduce the potential risk of selection bias.

Results

The initial search identified 565 records (520 full-text articles and 45 abstracts) in English and Persian. After the initial screening, 230 articles were considered eligible based on the inclusion criteria. Following the application of the exclusion criteria, 72 articles remained for full-text assessment. Finally, 21 articles published in English-language journals were included in the review based on full-text availability and their relevance to the review objectives. No major contradictory findings were identified among the included studies. The characteristics of the included articles, including the first author, publication year, country, study design, and key findings related to the review objectives, are presented in Table 1.

The findings of the included studies were synthesized and organized into four main thematic domains reflecting the role of social support and nursing interventions in promoting maternal mental health and empowerment

1. Mental Health Status of Mothers with Infants Admitted to the NICU

Understanding the psychological status of mothers of infants admitted to the NICU is fundamental to explaining the need for social support and nursing interventions. The reviewed evidence consistently demonstrates that NICU hospitalization is associated with a substantial burden of psychological distress, including depression, anxiety, post-traumatic stress symptoms, impaired maternal attachment, and emotional vulnerability.

Several studies have reported a high prevalence of postpartum depression among mothers of NICU-admitted infants, with depressive symptoms persisting for up to one year after discharge. Anxiety and post-traumatic stress symptoms are also common, occurring more frequently than among mothers of healthy newborns.

A history of mental health problems has been consistently identified as a major risk factor, whereas adequate social support appears to play a protective role in reducing psychological distress and improving maternal well-being [14, 15].

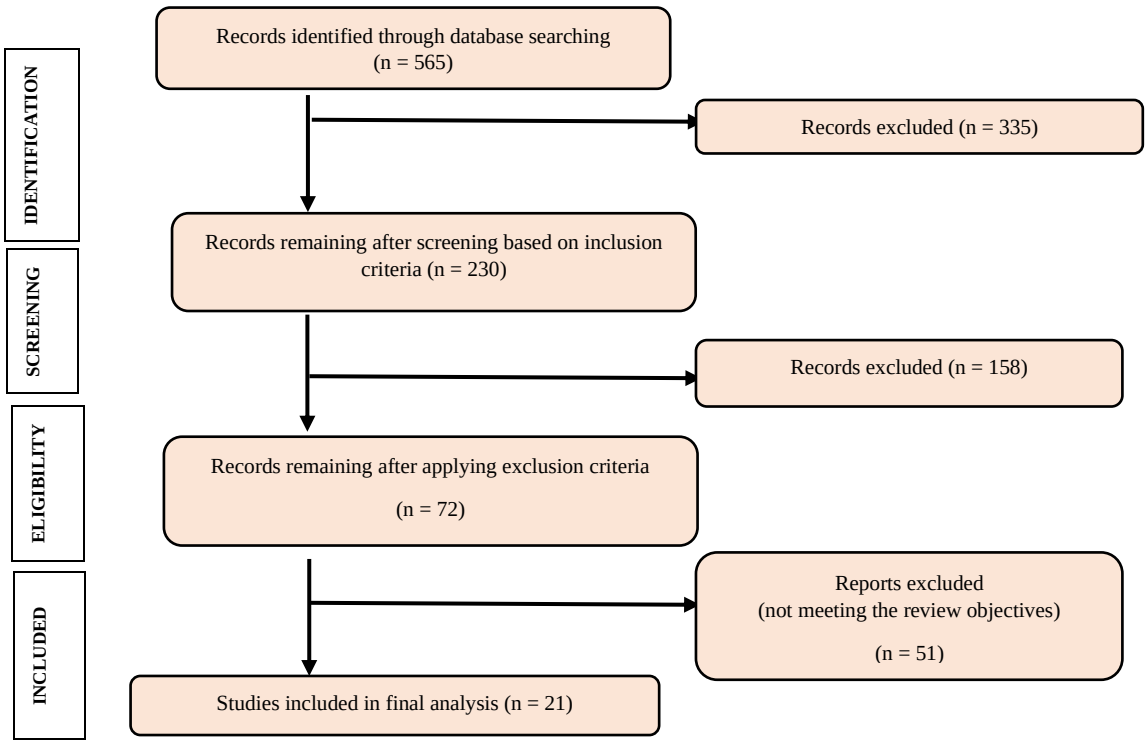

Figure 1: Article Selection Process

Table 1. The characteristics of the included articles

First Author	Year	Country	Study Type	Key Findings
Jenny Gong	2023	United Kingdom	Secondary analysis	Higher rates of postpartum mental health disorders; social support reduced psychological risk.
Leila Valizadeh	2015	Iran (Tabriz)	RCT	Structured NICU orientation reduced maternal anxiety.
Anushree Modak	2023	India	Comprehensive review	Multidisciplinary interventions improved maternal mental health and empowerment.
Melanie Turner	2014	Australia	Qualitative	Nurses provided essential emotional support despite implementation barriers.
Catherine P. Corrigan	2015	United States of America	Cross-sectional	Limited social support was associated with postpartum depression.
Mihae Im	2021	South Korea	Mixed methods	Identified four key dimensions of nursing support for NICU mothers.
Jo Brett	2011	United Kingdom (international systematic review)	Systematic Mapping Review	Supportive and educational interventions reduced parental stress and improved participation.
Zahra Abdeyazdan	2014	Iran	Quasi-experimental study	Family-centered support reduced parental stress and promoted empowerment.
Mihae Im	2021	South Korea	Psychometric	Developed and validated the PNSS-MP nursing support scale.
Jamalodin Begjani	2024	Iran (Tehran University of Medical Sciences)	Quasi-experimental	Peer support improved maternal self-efficacy.
Anushree Modak	2023	India	Narrative review	Breastfeeding promoted attachment and maternal mental health.
Shima Heidary	2023	Iran (Hajar Hospital, Shahrekord)	Quasi-experimental	Self-efficacy-based education reduced stress and increased maternal participation.
Mireille Stelwagen	2021	Netherlands (Amsterdam Teaching Hospital)	Qualitative	Family-integrated care enhanced parental empowerment and self-efficacy.
Ylva Thernström Blomqvist	2012	Sweden	Qualitative	Kangaroo care promoted parental involvement and paternal participation.
Fatemeh Mohammadi	2021	Iran	RCT	Self-efficacy-based education reduced postpartum depression.
Richard J. Shaw	2023	United States of America	Comparative study	Trauma-focused CBT reduced PTSD, anxiety, and depression.
Karel O'Brien	2013	Canada	Cohort study	Family-integrated care reduced maternal stress and improved neonatal outcomes.
Marianne Bracht	2013	Canada	Pilot study	Family-centered education improved parental confidence and discharge readiness.
Meredith Brockway	2018	Canada	Study protocol	Family-integrated care aimed to improve breastfeeding self-efficacy.
Fatma Didem Yucel Yetiskin	2026	Turkey	Cross-sectional	NICU hospitalization was associated with poorer maternal psychological outcomes and attachment.
Patricia Leahy-Warren	2020	Ireland	Cross-sectional	Social support and attachment predicted postpartum depression.

In addition, studies have shown that mothers of hospitalized infants experience significantly higher levels of anxiety and depression, poorer maternal attachment, and greater psychological trauma than mothers of non-hospitalized infants. These psychological challenges affect maternal emotional, cognitive, and behavioral functioning and may persist

beyond hospitalization. Collectively, the available evidence highlights the multidimensional and long-lasting psychological impact of NICU admission on mothers and underscores the importance of timely social support and targeted nursing interventions to promote maternal mental health and empowerment [16, 17]

2. The Role of Social Support in Promoting Maternal Mental Health

The reviewed evidence consistently identifies social support as one of the strongest protective factors against psychological distress among mothers of infants admitted to the NICU. Adequate emotional, informational, and practical support has been associated with lower levels of depression and stress, improved maternal well-being, and greater confidence in the maternal caregiving role. Conversely, insufficient social support increases the risk of psychological distress and may limit mothers' ability to cope with the challenges of neonatal hospitalization [18, 19].

Nurses play a central role in delivering social support through emotional support, education, infant caregiving guidance, and strengthening the maternal role. These dimensions of nursing support have been incorporated into validated assessment tools and family-centered care programs, demonstrating their importance in promoting maternal empowerment and psychological well-being [19, 20].

Despite its recognized benefits, providing effective psychosocial support remains challenging because of barriers such as limited time, inadequate physical space, and cultural or communication differences. Evidence also suggests that interventions including family-centered care, peer support groups, and orientation to the NICU environment can enhance mothers' perceived support, facilitate adaptation, and improve psychological outcomes [21, 22].

3. Nursing Interventions in Promoting Maternal Mental Health and Empowerment

a) Self-Efficacy-Based Educational Interventions

Evidence indicates that educational interventions based on Bandura's self-efficacy theory effectively reduce maternal stress and postpartum depression while enhancing mothers' confidence and participation in infant care. Educational-supportive programs delivered by nurses or experienced peer mothers have also been shown to strengthen maternal self-efficacy and empowerment. In addition, structured orientation to the NICU environment through simple educational strategies, such as videos or brochures, can reduce maternal anxiety by increasing familiarity with the care setting [23-26].

b) Family-Centered Care

Family Integrated Care (FICare) is one of the most effective nursing approaches for improving maternal psychological well-being and neonatal outcomes. Evidence shows that involving mothers as active partners in infant care reduces maternal stress, enhances self-efficacy and confidence, improves breastfeeding outcomes, and facilitates the transition to home care. Successful implementation of this model, however, requires adequate staff training and organizational support to address potential communication and environmental challenges [27] [28-30].

c) Skin-to-Skin Contact as a Tool for Maternal Empowerment

Skin-to-skin contact (kangaroo mother care) promotes maternal empowerment by strengthening mother–infant attachment, increasing parental confidence, and fostering a sense of control in infant care. It also facilitates breastfeeding, which has been associated with improved maternal mental health and reduced postpartum depression. Encouraging fathers to participate in skin-to-skin care may further strengthen family support and indirectly enhance maternal psychological well-being [31, 32].

d) Brief Psychological Interventions

Brief psychological interventions, particularly trauma-focused cognitive behavioral therapy (TF-CBT), have been shown to reduce symptoms of post-traumatic stress, anxiety, and depression among mothers of preterm infants. In addition, psychotherapy, coping skills training, and problem-solving interventions improve mothers' psychological adjustment during neonatal hospitalization, highlighting the importance of integrating psychological support into routine NICU care [22, 33].

4. Outcomes of Maternal Empowerment

The findings of the reviewed studies collectively demonstrate that the empowerment of mothers through social support and nursing interventions yields outcomes that extend beyond the period of hospitalization, exerting long-term effects on both maternal mental health and neonatal development.

Leahy-Warren and colleagues demonstrated that strengthening mother–infant attachment and social support during the hospitalization period is predictive of maternal mental health throughout the first year of the infant's life [14].

O'Brien and colleagues and Bracht and colleagues demonstrated that maternal empowerment in the NICU is associated with increased breastfeeding continuity and improved neonatal developmental indices [27, 28].

Brockway and colleagues further emphasized that improvement in maternal breastfeeding self-efficacy has significant implications for overall infant health, developmental outcomes, and mother–infant attachment [30].

Modak and colleagues reported that improvement in maternal mental health and self-confidence forms the foundation of healthier family dynamics. Taken together, the narrative of findings across these studies presents a clear picture: multidimensional social support and targeted nursing interventions ranging from familiarization with the NICU environment and self-efficacy-based education to family-centered care, skin-to-skin contact, and brief psychological interventions can promote maternal mental health and empower mothers across cognitive, emotional, and behavioral dimensions. This empowerment extends beyond the period of hospitalization, exerting a lasting influence on the quality of attachment, breastfeeding continuity, and neonatal development in the long term [32].

Discussion

This narrative review indicates that mothers of infants admitted to the NICU experience considerable psychological distress, including anxiety, depression, stress, and post-traumatic stress symptoms, which may continue beyond hospitalization. These challenges appear to be related not only to the infant's medical condition but also to uncertainty regarding the infant's condition, disruption of the maternal role, and exposure to a stressful NICU environment [34, 35] [15, 26]. Consistent with the Social Support Theory, social support may function as a protective mechanism by improving coping capacity, reducing perceived stress, and enhancing mothers' sense of control [36, 37]. The findings also suggest that some aspects of maternal psychological distress may be modifiable through supportive nursing interventions, such as parental orientation and familiarization with the NICU environment [15, 26, 35].

Different dimensions of social support appear to influence maternal mental health through distinct pathways. Emotional and informational support provided by nurses may be particularly important because they directly address maternal anxiety, uncertainty, and concerns regarding infant care [18-22] Instrumental support may help reduce practical burdens, whereas appraisal support may contribute to improving maternal confidence and perceived competence [25, 32].Family support also plays an important role; however, its effectiveness may depend on cultural context, family availability, and institutional policies regarding parental involvement [19, 21]. Peer support represents another supportive approach that may strengthen maternal self-efficacy by providing shared experiences and emotional reassurance [25]. The reviewed evidence suggests that nursing interventions based on active maternal participation, including family-centered care, skin-to-skin contact, and self-efficacy-based education, may have broader effects on maternal empowerment because they promote confidence, caregiving participation, and mother–infant bonding [23, 24, 27-31]. These findings are consistent with Bandura's self-efficacy theory, which emphasizes the role of mastery experiences and active involvement in strengthening individuals' belief in their capabilities. In contrast, trauma-focused cognitive behavioral therapy appears to have a more targeted role in addressing psychological symptoms such as post-traumatic stress, anxiety, and depression [33]. Therefore, the choice of intervention may depend on maternal needs, with educational and participatory approaches supporting empowerment and psychological interventions addressing clinically significant distress.

Variations in findings across studies may be explained by differences in cultural context, healthcare systems, intervention characteristics, study designs, and outcome assessment methods. Randomized controlled trials provide stronger evidence regarding intervention effects, whereas qualitative studies contribute valuable insights into mothers' experiences and the mechanisms through which support facilitates empowerment [21, 29]. Differences in family involvement, NICU policies, and available healthcare resources may also influence the effectiveness and feasibility of supportive interventions across settings [21].

The reviewed studies have several strengths, including the use of diverse methodological approaches, evaluation of multiple supportive strategies, and application of validated instruments in several studies [20, 33]. However, limitations within the existing evidence should be considered, including small sample sizes in some studies, heterogeneity in intervention protocols and outcome measures, limited investigation of fathers' roles, and insufficient long-term follow-up. Furthermore, as this was a narrative review, the possibility of selection bias cannot be completely excluded.

Based on the available evidence, future NICU care should incorporate multidimensional supportive approaches, including parental education, family-centered care, emotional support, and timely psychological referral according to mothers' needs. Further multicenter studies with standardized interventions, longer follow-up periods, and greater inclusion of fathers are needed to strengthen the evidence base for supportive care models in the NICU.

Conclusion

A review of the literature indicates that parenting styles play a significant role in the emergence of risky behavior among adolescents. Adolescents who experience authoritative parenting are less likely to engage in such behaviors and demonstrate greater resilience in the face of risks. In light of these findings, educational planners, developmental psychologists, and counselors should prioritize the role of parenting styles in adolescent development. Providing adequate, targeted training for parents on effective parenting strategies is essential for promoting healthy behavioral outcomes and reducing risk-taking among youth.

Authorship contribution statement

FM and MS conceived and designed the study. FM collected the data; FM and MS performed the data analysis and interpretation; and MS guided the study design.

Ethical Consideration

The study was approved by the Ethics Committee of Lorestan University of Medical Sciences (IR.LUMS.REC.1405.095).

Declaration of Competing Interest

The authors have no conflict of interests related to this article

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Data Availability

This study is a narrative review and does not include any new, primary data. All data supporting the findings of this study are derived from previously published sources, which are cited within the manuscript.

Declaration of Generative AI

The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

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