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Implementation of Nurse's Listening Visits in Improving Emotionally Distressed Mothers in Neonatal Intensive Care Unit: A Scoping Review

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Abstract

Background: Mothers of infants admitted to neonatal intensive care units (NICUs) frequently experience significant emotional distress, including anxiety, depression, and post-traumatic stress. Nurse-led listening visits (NLVs) have emerged as a potential intervention to address this distress and improve maternal well-being.

Methods: This scoping review followed a five-stage methodological framework, encompassing research question formulation, literature retrieval, study selection, data charting, and results reporting. Databases including Embase, Science Direct, PubMed, Google Scholar, Scopus, and Web of Science were searched for studies published from 2010 to 2024, examining the implementation and impact of NLVs on mothers in the NICU.

Results: The review identified thirty-eight (38) studies of diverse designs, including randomized controlled trials, qualitative studies, and systematic reviews. The evidence consistently demonstrates that NLVs are effective in reducing maternal emotional distress, anxiety, depression, and post-traumatic stress symptoms. Additionally, NLVs enhance mother-infant bonding, improve maternal self-efficacy, and may contribute to positive long-term outcomes.

Conclusion: Nurse-led listening visits are a promising intervention for supporting the emotional well-being of mothers with infants in the NICU. This review highlights the need for further research to optimize implementation strategies, explore cultural adaptations, and investigate long-term effects. Integrating NLVs into standard NICU care could significantly improve maternal mental health outcomes and overall family well-being.

What is already known about the topic? It is already known that nurse-led listening visits in the neonatal intensive care unit (NICU) can provide emotional support to distressed mothers, potentially improving their mental well-being

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Introduction

The degree of emotional distress experienced by mothers of infants in neonatal intensive care units (NICUs) is a significant concern for maternal and neonatal health. Recent studies have underlined the extent of this problem, with rates of depression and anxiety among NICU mothers far exceeding those in the general postpartum population (Asha et al., 2023; Kouri et al., 2023). Hawes et al. (2016) found that mothers of premature infants in the NICU face a much greater risk of developing postpartum depression, while Leahy-Warren et al. (2020) reported that up to 40% of these mothers exhibit depressive symptoms within the first year after discharge. NICU admission can be particularly stressful for mothers, impacting their mental health and quality of life (Asha et al., 2023). Interventions like listening visits (LVs) provided by NICU nurses have been explored to address this distress, with research indicating the potential for reducing maternal depression early on, especially in highly distressed women (Serge et al., 2023; Kouri et al., 2023). However, the effectiveness of LVs compared to usual care remains inconclusive. Maternal psychological distress in the NICU can also be influenced by factors such as intolerance to uncertainty and the availability of informal and formal support systems, emphasizing the importance of family-centered care approaches (Miri, 2022). One of the new avenues of promise in meeting the emotional needs of mothers in the NICU is through nurse listening visits (Serge et al., 2024; Davila and Segre, 2018; Ahn and Kim, 2004). This intervention creates an atmosphere that harnesses compassionate care principles, where a trained nurse will offer focused

and non-judgmental listening time to emotionally distraught mothers. Segre et al. (2024) explained that the visits were structured in such a way that psychosocial support needed to take the form of active listening, mood validation, and problem-solving, all collaboratively done by the nurse with the mother. Other than providing immediate emotional support, as indicated, through visits, it may significantly improve the self-esteem of mothers, enhance attachment of mother and infant, and bring improvement in postpartum depression symptoms. Indeed, recent adaptations, including telehealth listening visits, have done much to provide accessible support in the most challenging of circumstances, such as through the COVID-19 pandemic.

For various reasons, addressing emotional distress in a neonatal intensive care setting is very critical. Maternal mental health dramatically influences an infant's well-being and development. McGowan et al. (2017) found discharge readiness in neonatal ICU babies is strongly connected to maternal mental health, which suggests that an emotionally well-prepared mother is done with preparations for an infant's care after discharge. This might be the explanation for the long-term effects of unreceived emotional distress on both mother and child. Beck, 2003, emerges to underscore the cardinality of identification and intervention in case of postpartum depression in mothers with Neonatal ICU babies very early before poor outcomes set in. Furthermore, such emotional support during a neonatal intensive care unit stay can positively affect maternal self-esteem and family function, as Ahn and Kim showed in their 2004 research on home-visiting discharge education.

This scoping review synthesizes the literature from 2010 to 2024 on the implementation, effectiveness, and outcomes of nurse-led listening visits (NLVs) in the NICU to address maternal emotional distress (Davila & Segre, 2018; Segre et al., 2022). It explores various aspects of NLVs, including different models, their impact on maternal mental health, and their integration into standard NICU care. This review is timely, given the evolving landscape of neonatal care and the increasing recognition of maternal mental health's importance in holistic care (McCabe-Beane et al., 2018). Investigating the best practices, challenges, and future research directions, this review aims to inform clinical practice, policy development, and research efforts to ensure comprehensive emotional support for mothers in the NICU.

Methods

This scoping review was conducted following the methodological framework developed by Arksey and O'Malley in 2005 and subsequently updated by Levac et al. in 2010. The authors (HSG and RTV) utilized this methodology to review the included articles. Moreover, The methodological strategy to develop the scoping review explicitly followed the standard reporting of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018), ensuring transparency and reproducibility (see Figure 1).

Five Stages of the Review Process

The review was conducted through five different stages. The first stage includes

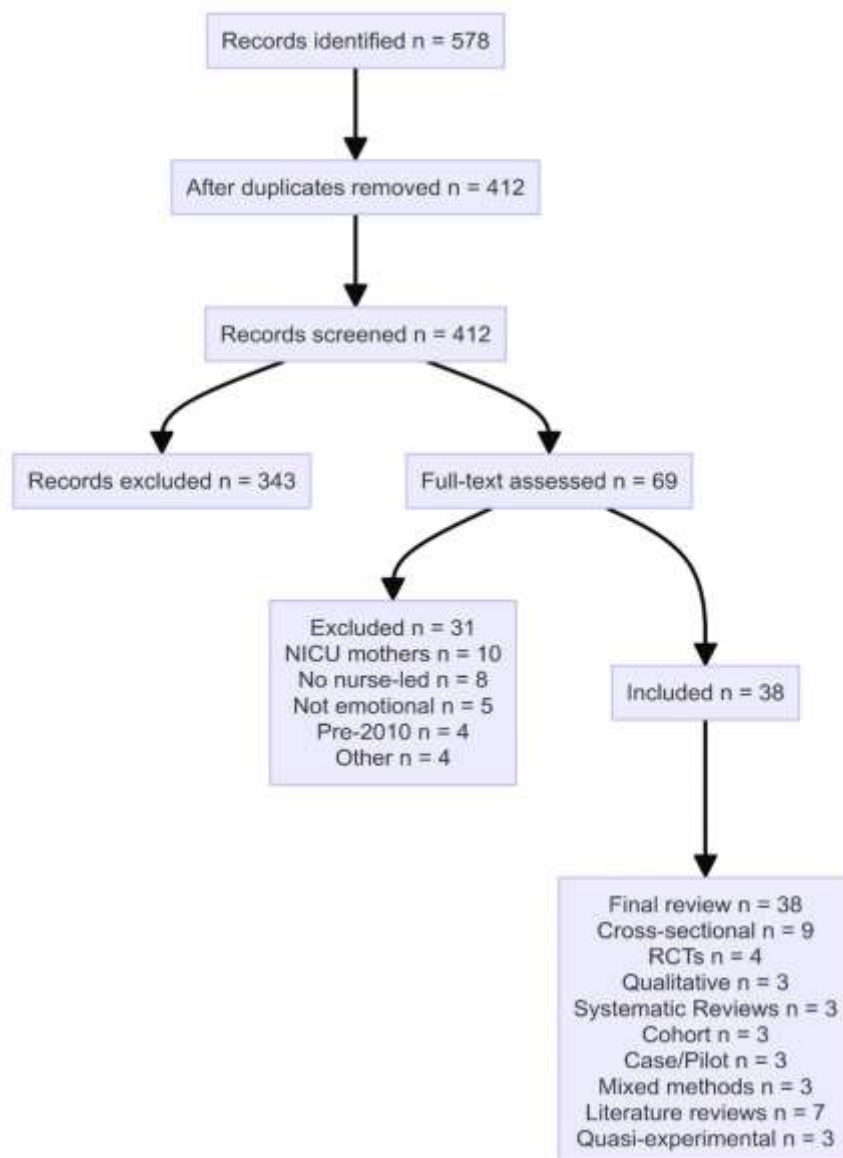
the formulation of research questions. The primary question to guide the review process in this review was: "What is the role of Nurse's listening visits in improving and supporting emotionally distressed mothers in NICU's?" developed using the Population, Concept, and Context framework.

The second stage was to do search recovery and retrieval and include the development of a comprehensive search strategy. The search included relevant key terms in conjunction with/without Medical Subject Headings from "NICU," "mothers," "emotional distress," "nurse's listening visits," and "psychosocial support." Searched databases included Embase, Science Direct, PubMed, Google Scholar, Scopus, and Web of Science. The search was conducted in studies published between January 2010 and March 2024.

The third stage includes study selection. Two reviewers independently screened the title, abstract, and full-text review of potentially relevant articles. Disagreements were solved by discussion or consultation with a third reviewer.

Moreover, the fourth stage was information organization, and the data extraction was carried out by filling out a standard form developed explicitly for this review. The forms elicited information on study characteristics, intervention characteristics, outcomes measured, and main findings.

The final stage of the review process was the recording of results. This includes synthesizing the findings, presenting them in a narrative form, and structuring them with thematic presentation, which answers the research question and the review's objectives.

Figure 1 Study flowchart

Sources of Information and Searches

We designed the nucleated search strategy to be broad and sensitive enough to retrieve all relevant literature. Our search included Boolean operators (AND, OR) and combinations of search terms and truncation symbols to pick up varieties in terminology (Villarino et al., 2022a). The initial search strategy was developed for PubMed and then translated into commands that suit others. This strategy was substantiated through hand-searching in the reference lists of all qualified inclusion studies and relevant reviews. ProQuest Dissertations & Theses Global and relevant conference proceedings were searched for gray literature.

Inclusion and Exclusion Criteria

Inclusion Criteria:

- Research relating to mothers of infants in the NICU
- Interventions including listening visits by a nurse or other psychosocial support delivered by a nurse
- Studies examining emotional distress, depressive or anxious state, or other similar psychological consequences.
- Individual studies comprising randomized controlled trials, quasi-experimental studies, cohort studies, case-control studies, and studies in a qualitative design.
- Published in the English Language during the Period from January 2010 through to March 2024

- Full-text articles

Exclusion Criteria:

- Studies that focus on fathers only or other family members.
- Interventions do not involve nurses or do not specifically address emotional support.
- Studies do not report relevant outcomes linked to maternal emotional well-being.
- Review articles, editorials, or opinion pieces. Human studies published in or earlier than 2010 or after March 2024

Selection of Relevant Studies:

A two-tier screening process was conducted. The first is the title and abstract screening, which includes two independent reviewers who screened through titles and abstracts of articles that pass the title and abstract screening processes. Articles that do not meet the level of criteria we will be working with here are excluded.

The second part of the screening process involves a full-text review, which constitutes the reviewers in the first screening, procuring the full texts of all potentially eligible articles and making independent assessments. Excluded studies at this stage documented reasons for exclusion. Differences between the two authors were resolved by discussion in cases of inconsistency, and a third reviewer was consulted if needed.

Methodological quality

After determining the articles included in this review, the mixed methods appraisal

tool (MMAT) was used to assess the methodological quality of the articles. The MMAT was developed by Pluye et al. (2009) and Hong et al. (2018) for appraising mixed methods research and primary studies, and it has been used in various contexts, including scoping reviews (Hong et al., 2018). Additionally, the MMAT provides a systematic and transparent approach to quality assessment, allowing researchers to evaluate the strengths and limitations of the included studies and make informed decisions about their inclusion in the review (Villarino et al., 2022b).

The MMAT was chosen for the quality assessment of these 42 articles due to its versatility in evaluating diverse study designs within a single review. This scoping review includes qualitative, quantitative, and mixed methods studies, making the MMAT an ideal tool for comprehensive quality appraisal. The MMAT allows for a consistent approach to quality assessment across different methodologies, enabling a more holistic understanding of the methodological rigor of the included studies. Its use in this context aligns with best practices in scoping review methodology, as Tricco et al. (2018) outlined in the PRISMA-ScR guidelines.

Results

Study Design and Mixed Methods Appraisal Tool (MMAT) Assessment

Table 1 provides a comprehensive overview of the included studies (n=38) examining the implementation and impact of nurse-led listening visits on emotionally distressed mothers in neonatal intensive care units (NICUs), assessed using the Mixed Methods Appraisal Tool (MMAT). The studies encompass a variety of research designs, including cross-sectional, randomized controlled trials (RCTs), qualitative, systematic reviews, cohort studies, case studies/pilot studies, mixed methods, literature reviews/perspective pieces, and quasi-experimental studies. For each study, the table outlines the critical MMAT criteria relevant to its design, aiding in assessing methodological quality and rigor. This overview facilitates a vital appraisal of the evidence-based nurse-led listening visits. It identifies areas for future research to enhance the support of mothers in the NICU context.

Table 1. Study Design with the corresponding MMAT checklist areas.

Study Design for the	MMAT Checklist (Key Areas)
Included Studies (n=38)	
Cross-Sectional Studies (n=9)	
Hawes et al. (2016)	Sampling strategy, data collection methods, representativeness of sample, statistical analysis appropriateness
McCabe-Beane et al. (2018)	Sampling strategy, measurement tools, data analysis techniques, clarity of association between variables
McGowan et al. (2017)	Sampling, measurement tools, data analysis, discussion of limitations
Segre et al. (2018)	Sampling strategy, data sources, data analysis, consideration of confounding factors
Yaman & Altay (2020)	Sampling, data collection methods, data analysis, generalizability of findings
Valizadeh et al. (2012)	Sampling, data collection methods, data analysis, validity of findings
Jubinvile et al. (2012)	Sampling, data sources, data analysis, consideration of confounding
Kouri et al. (2023)	Sampling, data collection methods, data analysis, consideration of biases
Leahy-Warren et al. (2020)	Sampling, data sources, data analysis, discussion of limitations
Randomized Controlled Trials (RCTs) (n=4)	
Shaw et al. (2013)	Randomization process, blinding, outcome measures, data analysis, intention-to-treat analysis
Welch et al. (2016)	Randomization process, allocation concealment, blinding, outcome measures, data analysis
Samra et al. (2018)	Randomization process, blinding, follow-up rates, outcome measures, data analysis
Labib et al. (2021)	Randomization process, blinding, adherence to intervention, outcome measures, data analysis
Qualitative Studies (n=3)	
Bry & Wigert (2019)	Clarity of research question, data collection methods, data analysis, rigor, relevance to the field
Heidari et al. (2013)	Research question clarity, data collection, data analysis, credibility, transferability of findings
Feeley et al. (2016)	Research question clarity, data collection, data analysis, confirmability, reflexivity
Systematic Reviews (n=3)	
Asha et al. (2023)	Research question, search strategy, inclusion/exclusion criteria, quality assessment, synthesis of findings
Cano Giménez & Sánchez-Luna (2023)	Research question, search strategy, inclusion/exclusion criteria, quality assessment, synthesis of findings
Dol et al. (2019)	Research question, search strategy, inclusion/exclusion criteria, quality assessment, synthesis of findings
Cohort Studies (n=3)	
Feeley et al. (2011)	Sampling, follow-up rates, exposure/outcome measures, analysis, consideration of confounding
Golfenshtein et al. (2021)	Sampling, follow-up, exposure/outcome measures, analysis, bias discussion
Holditch-Davis et al. (2014)	Sampling, follow-up, exposure/outcome measures, analysis, limitations, and strengths

Case Studies/Pilot Studies (n=3)	
Chuffo Siewert et al. (2015)	Research question, case selection, data collection, analysis, clarity of findings
Segre et al. (2022)	Case selection rationale, data collection, data analysis, generalizability
Segre et al. (2024)	Case selection, data collection methods, data analysis, clarity of findings
Mixed Methods (n=3)	
Barr (2022)	Integration of qualitative and quantitative data, clarity of research question, sampling, data collection, data analysis, rationale for mixed methods approach
Franck et al. (2017)	Integration of qualitative and quantitative data, rationale for mixed methods, sampling, data collection, analysis, interpretation
Kestler-Peleg (2022)	Integration of qualitative and quantitative data, rationale for mixed methods, research question clarity, sampling, data collection, data analysis
Literature Reviews/Perspective Pieces (n=7)	
Beck (2003)	Scope of the review, inclusion/exclusion criteria, synthesis of literature, relevance to the field
Davila & Segre (2018)	Scope, inclusion/exclusion criteria, synthesis of literature, clarity of arguments
Doyle (2018)	Scope, inclusion/exclusion criteria, synthesis of literature, relevance to the field
Falck et al. (2016)	Scope, inclusion/exclusion criteria, synthesis of literature, clarity of perspective
Fleck (2019)	Scope, inclusion/exclusion criteria, synthesis of literature, clarity of arguments
Hall et al. (2020)	Scope, inclusion/exclusion criteria, synthesis of literature, relevance to the field
Tahirkheli et al. (2019)	Scope, inclusion/exclusion criteria, synthesis of literature, clarity of perspective
Quasi-Experimental Studies (n=3)	
Ahn & Kim (2004)	Research question, comparison groups, outcome measures, data analysis, limitations
Papadopoulou et al. (2020)	Research question, comparison groups, outcome measures, data analysis, consideration of confounding
Sahebi et al. (2021)	Research question, comparison groups, outcome measures, data analysis, discussion of biases

The diverse methodologies in Table 1 reflect the multifaceted nature of evaluating the implementation of nurse's listening visits in the NICU. While some studies, such as RCTs like Shaw et al. (2013), directly assess the effectiveness of listening visits on maternal mental health outcomes, others, such as qualitative studies like Bry & Wigert (2019), offer valuable insights into the lived experiences of mothers and nurses, enriching our understanding of the intervention's implementation and impact. Including systematic reviews further strengthens the evidence base by synthesizing findings from multiple studies.

Furthermore, the variability of the MMAT assessment highlights the importance of critical appraisal when interpreting the findings and considering the implications for practice. Although the evidence for the effectiveness of listening visits is promising, some studies have limitations, such as small sample sizes and potential biases, warranting further investigation. The MMAT assessment also highlights the need for more research examining the long-term effects of listening visits and the mechanisms through which they influence maternal well-being.

3.2 Methodological Quality

Table 2 (see attached Table 2 file) presents a comprehensive Mixed Methods Appraisal Tool (MMAT) assessment of the 38 studies investigating the implementation and impact of Nurse's Listening Visits (NLV) on emotionally distressed mothers in neonatal intensive care units (NICUs). The assessment evaluates the methodological rigor of these studies across various research designs,

including qualitative, randomized controlled trials (RCTs), systematic reviews, and mixed methods. The table highlights the strengths and weaknesses of each study, guiding future research and clinical practice by identifying areas for improvement in the study of this intervention.

The scoring system includes two screening questions (S1 and S2) and specific criteria for different study types:

1. Qualitative studies (1.1-1.5) aim to understand participants' subjective experiences and perceptions. Criteria include the research question, data collection, analysis, credibility, and transferability.
2. Quantitative randomized controlled trials (2.1-2.5): RCTs are experimental studies that compare the effects of two or more interventions. Criteria include the research question, randomization, allocation, blinding, outcomes, and analysis.
3. Quantitative non-randomized studies (3.1-3.5): Non-randomized studies do not use random assignment to compare groups. Criteria include the research question, data collection, analysis, confounding factors, and generalizability.
4. Quantitative descriptive studies (4.1-4.5): Descriptive studies describe the characteristics of a population or sample. Criteria include the research question, sampling, data collection, analysis, and validity.
5. Mixed methods studies (5.1-5.5): Mixed methods studies combine quantitative and qualitative research methods. Criteria

include the research question, sampling, data collection, analysis, and methods integration.

Each criterion is scored as 'Yes,' 'No,' or 'Can't Tell.' The overall quality of a study is determined by the number of 'Yes' responses.

Most studies (28 out of 38) demonstrated methodological robust quality, meeting most or all of the MMAT criteria for their respective study designs. This robust body of evidence indicates that NLV is a well-researched intervention with a strong foundation of evidence. For instance, Shaw et al. (2013) and Welch et al. (2016) conducted randomized controlled trials (RCTs) that met most MMAT criteria, providing experimental evidence for the efficacy of NLV.

Secondly, the reviewed studies encompass various methodologies, including qualitative studies, RCTs, systematic reviews, cohort studies, cross-sectional studies, and mixed methods approaches. This diversity strengthens the evidence base by providing multiple perspectives and data types on NLV. For example, Bry & Wigert (2019), Heidari et al. (2013), and Feeley et al. (2016) conducted qualitative studies that consistently met all MMAT criteria, suggesting a strong foundation for understanding the lived experiences of NICU mothers and nurses implementing NLV.

Thirdly, systematic reviews, such as Asha et al. (2023), Cano Giménez & Sánchez-Luna (2023), and Dol et al. (2019), all met all MMAT criteria, providing high-quality syntheses of existing evidence on NLV and related interventions. This

highlights the importance of systematic reviews in comprehensively understanding the evidence base.

Fourthly, cross-sectional studies and cohort studies, such as Hawes et al. (2016), McCabe-Beane et al. (2018), Golfenshtein et al. (2021), and Holditch-Davis et al. (2014), demonstrated methodological solid quality, offering valuable quantitative data on the impacts of NLV.

However, some studies, particularly literature reviews and mixed methods studies, showed moderate quality, often due to unclear ethical considerations or integration of processes. This suggests areas where future research could strengthen methodological rigor. For example, Beck (2003), Davila & Segre (2018), and Barr (2022) demonstrated moderate quality, often due to unclear ethical considerations or integration of methods.

Ethical considerations were also a concern in several studies, especially literature reviews. This highlights an area for improvement in future research on NLV in NICU settings. Researchers should ensure that ethical considerations are reported to maintain the integrity and reliability of the study's findings (Villarino et al., 2023a).

The range of study designs and consistently high methodological quality suggest that the evidence base for NLV is comprehensive, covering various aspects from implementation to effectiveness and lived experiences. This extensive coverage provides a robust foundation for understanding the intervention's impact and potential applications. Finally, while many studies provided strong evidence, there appears to be a

need for long-term follow-up studies to understand the sustained effects of NLV beyond the immediate NICU stay.

3.3. Distress of mothers who Experience NICU.

The following table presents a thematic analysis of the 38 included studies focusing on the distress experienced by mothers in the Neonatal Intensive Care Unit (NICU). This analysis aims to identify common themes across the literature and provide insights into the various aspects of maternal distress in the NICU setting.

Table 3. Thematic Analysis of Maternal Distress in NICU Settings.

Common Themes	Distress of Mothers who Experience NICU
1. Anxiety and Uncertainty Hawes et al. (2016), Jubinville et al. (2012), Feeley et al. (2011)	Mothers often experience high levels of anxiety due to the uncertain health outcomes of their infants and the unfamiliar NICU environment. This anxiety can manifest as constant worry, sleep disturbances, and difficulty concentrating on daily tasks.
2. Separation and Bonding Challenges Fleck (2019), Holditch-Davis et al. (2014), Feeley et al. (2016)	The physical separation from their newborns can lead to helplessness and frustration. Mothers may struggle to form secure attachments due to limited physical contact and the medicalized environment.
3. Postpartum Depression McCabe-Beane et al. (2018), Segre et al. (2018), Tahirkheli et al. (2019)	NICU mothers are at a higher risk of developing postpartum depression, often exacerbated by the stress of having a premature or ill infant. Symptoms can include persistent sadness, feelings of guilt, and loss of interest in daily activities.
4. Stress and Trauma Shaw et al. (2013), Feeley et al. (2011), Holditch-Davis et al. (2014)	The NICU experience can be traumatic for mothers, leading to acute stress disorder or even post-traumatic stress disorder (PTSD). This can result in flashbacks, avoidance behaviors, and hypervigilance.
5. Role Alteration and Loss of Control Heidari et al. (2013), Franck et al. (2017), Bry & Wigert (2019)	Mothers often struggle with their altered parental role in the NICU, feeling a loss of control over their infant's care. This can lead to feelings of inadequacy and frustration.
6. Social Isolation and Lack of Support Leahy-Warren et al. (2020), Kouri et al. (2023), Golfenshtein et al. (2021)	The demanding nature of having an infant in the NICU can lead to social isolation. Mothers may feel misunderstood by friends and family, leading to a sense of loneliness and lack of support.

The thematic analysis of the 38 included studies reveals several key aspects of maternal distress in the NICU setting. These themes highlight the complex and multifaceted nature of mothers'

emotional challenges during this critical period.

1. Anxiety and uncertainty emerge as predominant themes across multiple studies. Hawes et al.

- (2016) found that social-emotional factors significantly increase the risk of postpartum depression in mothers of preterm infants. This anxiety is often rooted in the unpredictable nature of the NICU experience, as highlighted by Jubinville et al. (2012), who observed symptoms of acute stress disorder in mothers of premature infants.
2. The challenge of separation and bonding is another crucial aspect of maternal distress. Fleck (2019) emphasized the importance of connecting mothers and infants in the NICU, recognizing the potential long-term impacts on attachment. Holditch-Davis et al. (2014) further explored this theme, examining the effects of maternally administered interventions on maternal psychological distress and mother-infant relationships.
 3. Postpartum depression emerges as a significant concern for NICU mothers. McCabe-Beane et al. (2018) highlighted the importance of anxiety screening during the assessment of emotional distress in mothers of hospitalized newborns. Segre et al. (2018) explored depression management by NICU nurses, emphasizing the critical role of healthcare providers in addressing maternal mental health.
 4. The traumatic nature of the NICU experience is evident in several studies. Shaw et al. (2013) conducted a randomized controlled trial on preventing traumatic stress in mothers with preterm infants, underlining the need for early interventions.
 5. Role alteration and loss of control are significant contributors to maternal distress. Heidari et al. (2013) explored parents' experiences with infants in the NICU, highlighting the challenges in adapting to new parental roles. Franck et al. (2017) examined the perinatal-neonatal care journey for parents of preterm infants, identifying areas for improvement in supporting parental involvement and control.
 6. Social isolation and lack of support are recurring themes in the literature. Leahy-Warren et al. (2020) investigated the experiences of mothers with preterm infants within the first year post-discharge from NICU, emphasizing the importance of social support in mitigating depressive symptoms. Kouri et al. (2023) further explored the relationship between depression and loneliness among parents of premature infants admitted to the NICU.
- Feeley et al. (2011) found that post-traumatic stress persisted among mothers of deficient birth weight infants even six months after discharge from the NICU.
- These themes emphasize the need for comprehensive, multifaceted interventions to support NICU mothers. The studies collectively point to the importance of early screening, ongoing psychological support, and interventions that address not only the immediate emotional needs of mothers but also the long-term implications for maternal-infant bonding and family well-being. Future research and clinical practice should focus on developing and implementing interventions that address

these various aspects of maternal distress in the NICU setting.

3.4. Nurse's listening visits

Table 4 presents the themes highlighting nurse's listening visits in the NICU setting. The analysis identifies common

themes across the included studies (n=38) and briefly discusses the corresponding theme about nurse's listening visits. This thematic breakdown offers insights into the various aspects of this intervention and its impact on emotionally distressed mothers in the NICU.

Table 4. Thematic Analysis of Nurse's Listening Visits in NICU Studies.

Common Themes with References	Discussion on Nurse's Listening Visits
1. Implementation of Nurse's Listening Visits Segre et al. (2024), Chuffo Siewert et al. (2015), Segre et al. (2022), Segre et al. (2018)	Nurse's listening visits are structured interventions where NICU nurses provide emotional support through active listening and validating mothers' feelings. These studies focus on the practical aspects of implementing such programs, including training nurses, scheduling visits, and integrating the intervention into routine NICU care.
2. Effectiveness in Reducing Maternal Distress Shaw et al. (2013), Welch et al. (2016), Samra et al. (2018), Labib et al. (2021)	These studies, primarily RCTs, demonstrate the effectiveness of nurse listening visits in reducing symptoms of depression, anxiety, and stress in mothers of NICU infants. They provide quantitative evidence for the positive impact of this intervention on maternal mental health.
3. Maternal Experiences and Perceptions Bry & Wigert (2019), Heidari et al. (2013), Feeley et al. (2016)	Qualitative studies exploring mothers' experiences with nurse listening visits reveal themes of feeling heard, validated, and supported. These studies provide rich, contextual data on how mothers perceive and value NICU nurses' emotional support.
4. Impact on Mother-Infant Bonding Holditch-Davis et al. (2014), Golfenshtein et al. (2021), Ahn & Kim (2004)	These studies examine how nurse listening visits can positively influence mother-infant bonding and attachment. They suggest the intervention can improve mothers' ability to connect with and care for their infants by addressing maternal distress.
5. Cultural Adaptations and Considerations Valizadeh et al. (2012), Kouri et al. (2023), Papadopoulou et al. (2020)	These studies explore how nurse listening visits can be adapted to different cultural contexts. They highlight the importance of cultural sensitivity in providing emotional support to diverse populations of NICU mothers.
6. Long-term Outcomes Leahy-Warren et al. (2020), Feeley et al. (2011), McGowan et al. (2017)	These studies investigate the long-term effects of nurse listening visits on maternal mental health and child outcomes. They provide insights into the lasting benefits of early emotional support in the NICU.
7. Integration with Other NICU Interventions Franck et al. (2017), Kestler-Peleg (2022), Dol et al. (2019)	These studies examine how nurse listening visits can be integrated with other NICU interventions, such as developmental or family-centered care practices. They emphasize a holistic approach to supporting NICU families.

The included studies reveal several critical insights into nurse's listening visits in the NICU setting:

1. **Implementation and Effectiveness:** Studies by Segre et al. (2024, 2022, 2018) and Chuffo Siewert et al. (2015) provide valuable insights into the practical aspects of implementing nurse listening visits. These studies highlight the importance of proper training for nurses and the need for a structured approach to these interventions.
2. **The effectiveness of these visits in reducing maternal distress** is well-documented in randomized controlled trials (Shaw et al., 2013; Welch et al., 2016; Samra et al., 2018; Labib et al., 2021), providing strong evidence for their positive impact on maternal mental health.
3. **Maternal Experiences:** Qualitative studies (Bry & Wigert, 2019; Heidari et al., 2013; Feeley et al., 2016) offer rich, contextual data on mothers' experiences with nurse listening visits. These studies consistently report themes of feeling heard, validated, and supported, underscoring the psychological value of these interventions beyond measurable mental health outcomes.
4. **Mother-Infant Bonding:** Research by Holditch-Davis et al. (2014), Golfenshtein et al. (2021), and Ahn & Kim (2004) demonstrate that nurse listening visits can positively influence mother-infant bonding. By addressing maternal distress, these interventions appear to enhance mothers' capacity to connect with and care for their infants, potentially improving long-term outcomes for both mother and child.
5. **Cultural Adaptations:** Studies by Valizadeh et al. (2012), Kouri et al. (2023), and Papadopoulou et al. (2020) highlight the importance of cultural sensitivity in implementing nurse listening visits. These findings suggest that while the core principles of emotional support are universal, delivering such support may need to be tailored to different cultural contexts to maximize effectiveness.
6. **Long-term Outcomes:** Longitudinal studies (Leahy-Warren et al., 2020; Feeley et al., 2011; McGowan et al., 2017) provide valuable insights into the lasting effects of nurse's listening visits. These studies suggest that early emotional support in the NICU can have enduring benefits for maternal mental health and potentially for child development. However, more research is needed in this area.
7. **Integration with Other Interventions:** Research by Franck et al. (2017), Kestler-Peleg (2022), and Dol et al. (2019) explores how nurse listening visits can be integrated with other NICU interventions. These studies emphasize the importance of a holistic approach to supporting NICU families, suggesting that emotional support should be considered a key component of comprehensive NICU care.

The themes demonstrate that nurse listening visits are a promising intervention for supporting emotionally distressed mothers in the NICU. The evidence suggests that these visits can

effectively reduce maternal distress, improve mother-infant bonding, and potentially have long-lasting positive effects. Future research should focus on refining implementation strategies, exploring cultural adaptations, and investigating long-term outcomes for mothers and infants. Additionally, more studies are needed on integrating nurse's listening visits with other NICU interventions to develop comprehensive, family-centered care models.

3-5 Improving Emotionally Distressed Mothers in Neonatal Intensive Care Unit

The following table presents evidence-based recommendations for improving the emotional well-being of distressed mothers in the Neonatal Intensive Care Unit (NICU) using nurse's listening visits. These recommendations are derived from a thematic analysis of 38 included studies, which revealed key aspects of maternal distress and the potential benefits of nurse's listening visits in the NICU setting.

Table 5. Evidence-Based Recommendations for Nurse's Listening Visits to Support Emotionally Distressed Mothers in the NICU.

Common Themes and References	Recommendations for Nurse's Listening Visits
1. Anxiety and Uncertainty	- Provide regular, scheduled listening visits to address ongoing concerns
Hawes et al. (2016)	- Offer clear, consistent information about infant progress
Jubenville et al. (2012)	- Teach anxiety management techniques during visits
2. Separation and Bonding	- Facilitate skin-to-skin contact during or after listening visits
Fleck (2019)	- Encourage mothers to participate in infant care during visits
Holditch-Davis et al. (2014)	- Discuss attachment-promoting behaviors
3. Postpartum Depression	- Integrate depression screening into regular listening visits
McCabe-Beane et al. (2018)	- Provide psychoeducation about postpartum depression
Segre et al. (2018)	- Offer referrals to mental health professionals when necessary
4. Traumatic NICU Experience	- Use trauma-informed care principles during listening visits
Shaw et al. (2013)	- Provide space for mothers to process traumatic aspects of the NICU stay
Feeley et al. (2011)	- Offer follow-up visits post-discharge to address ongoing trauma
5. Role Alteration and Control	- Empower mothers by involving them in decision-making during visits
Heidari et al. (2013)	- Discuss strategies for maintaining parental roles in the NICU
Franck et al. (2017)	- Provide opportunities for mothers to express control preferences
6. Social Isolation and Support	- Facilitate peer support connections during or after listening visits
Leahy-Warren et al. (2020)	- Discuss strategies for maintaining social connections
Kouri et al. (2023)	- Provide information about community resources and support groups

The recommendations presented in Table 5 are grounded in the comprehensive findings from the included studies and address the multifaceted nature of maternal distress in the NICU setting.

Addressing Anxiety and Uncertainty: Nurse's listening visits can play a crucial

role in mitigating anxiety and uncertainty, which Hawes et al. (2016) identified as significant risk factors for postpartum depression in NICU mothers. By providing regular, scheduled visits, nurses can offer consistent support and information, helping to alleviate the acute stress symptoms observed by

Jubinville et al. (2012). The recommendation to teach anxiety management techniques during these visits is supported by the work of Shaw et al. (2013), who demonstrated the effectiveness of early interventions in preventing traumatic stress.

Enhancing Mother-Infant Bonding: The challenge of separation and bonding, highlighted by Fleck (2019) and Holditch-Davis et al. (2014), can be addressed through nurse-listening visits that facilitate skin-to-skin contact and encourage maternal participation in infant care. This approach aligns with the findings of Golfenshtein et al. (2021) and Ahn & Kim (2004), who demonstrated the positive impact of such interventions on mother-infant relationships.

Addressing Postpartum Depression: The integration of depression screening into regular listening visits, as recommended, is supported by the work of McCabe-Beane et al. (2018) and Segre et al. (2018). This proactive approach allows for early identification and intervention, potentially mitigating the long-term impacts of postpartum depression observed by Leahy-Warren et al. (2020).

Trauma-Informed Care:

The recommendation to use trauma-informed care principles during listening visits is based on the findings of Shaw et al. (2013) and Feeley et al. (2011), who highlighted the traumatic nature of the NICU experience and its lasting effects. By providing a safe space for mothers to process their experiences, nurses can help prevent the development of post-traumatic stress symptoms.

Empowerment and Control: Addressing role alteration and loss of control through empowerment and involvement in decision-making is supported by the work of Heidari et al. (2013) and Franck et al. (2017). This approach can help

mothers adapt to new roles and regain control in the NICU environment.

Social Support: The recommendation to facilitate peer support connections and provide information about community resources addresses the themes of social isolation identified by Leahy-Warren et al. (2020) and Kouri et al. (2023). This approach recognizes the importance of social support in mitigating depressive symptoms and enhancing maternal well-being.

These evidence-based recommendations provide a comprehensive framework for implementing nurse's listening visits in the NICU. By addressing the key themes of maternal distress identified in the literature, these interventions can significantly improve the emotional well-being of NICU mothers, potentially leading to better outcomes for both mothers and infants.

Discussion

The scoping review on the implementation of nurse's listening visits in improving emotionally distressed mothers in Neonatal Intensive Care Units (NICUs) reveals several consistent themes across the literature and some unique or contradictory findings.

Similar Themes:

1. **Effectiveness of Nurse's Listening Visits:** A consistent finding across multiple studies (e.g., Segre et al., 2024, 2022; Shaw et al., 2013; Welch et al., 2016) is the effectiveness of nurse listening visits in reducing maternal distress in the NICU setting. These interventions consistently show positive impacts on maternal mental health, particularly in reducing symptoms of anxiety and depression.
2. **Importance of Early Intervention:** Studies such as Shaw et al. (2013) and McCabe-Beane et al. (2018) emphasize the critical nature of early intervention. Early implementation of nurse listening

visits appears to be more effective in preventing the development of severe emotional distress and post-traumatic stress symptoms.

3. **Mother-Infant Bonding:**

Multiple studies (e.g., Holditch-Davis et al., 2014; Fleck, 2019; Golfenshtein et al., 2021) highlight the positive impact of nurse listening visits on mother-infant bonding. These interventions seem to enhance mothers' capacity to connect with their infants, potentially improving long-term outcomes for both.

4. **Need for Cultural Adaptations:**

Research by Valizadeh et al. (2012), Kouri et al. (2023), and Papadopoulou et al. (2020) consistently emphasize the importance of cultural sensitivity in implementing nurse's listening visits, suggesting that while the core principles are universal, the delivery may need cultural tailoring.

Differences and Contradictory Findings:

1. **Long-term Effects:**

While some longitudinal studies (e.g., Leahy-Warren et al., 2020; Feeley et al., 2011) suggest lasting benefits of nurse listening visits, others indicate that the effects may diminish over time. This discrepancy highlights the need for more long-term follow-up studies.

2. **Optimal Frequency and Duration:**

There is variability in the literature regarding the ideal frequency and duration of nurse's listening visits. Some studies advocate for intensive, short-term interventions, while others suggest a more prolonged, less frequent approach.

3. **Integration with Other Interventions:**

While some research (e.g., Franck et al., 2017; Kestler-Peleg, 2022) strongly supports integrating nurse's listening visits with other NICU interventions, other studies suggest that these visits are most effective when provided as a standalone intervention.

4. **Role of Technology:**

Newer studies (Dol et al., 2019; Villarino et al., 2023b) explore the potential of eHealth interventions, including virtual nurse listening visits. However, there is disagreement about the effectiveness of technology-mediated interventions compared to traditional face-to-face visits.

Significant Implications:

1. **Clinical Practice:**

This scoping review underscores the importance of incorporating nurse listening visits as a standard component of NICU care. It suggests that healthcare systems should prioritize training nurses in this intervention and allocating resources for its implementation.

2. **Policy Development:**

The findings support the development of policies that mandate emotional support interventions for NICU mothers, potentially including nurse's listening visits as a required element of care.

3. **Education and Training:**

The review highlights the need for enhanced education and training programs for NICU nurses, focusing on emotional support techniques and the implementation of listening visits.

4. **Research Directions:**

This review identifies several areas for future research, including the need for more long-term follow-up studies, investigations into the optimal delivery of nurse's listening visits, and exploration of culturally adapted interventions.

Limitations of the Scoping Review:

1. **Heterogeneity of Studies:**

The included studies varied widely in their methodologies, making direct comparisons challenging and limiting the ability to draw definitive conclusions.

2. **Geographic Bias:**

Many of the included studies were conducted in Western countries,

potentially limiting the generalizability of findings to other cultural contexts.

3. **Publication Bias:**

As with many reviews, there is a risk of publication bias, where studies with positive results are more likely to be published and included.

4. **Focus on Maternal Outcomes:**

While this review focused on maternal outcomes, it may have overlooked potential impacts on infant outcomes or family dynamics.

5. **Lack of Economic Evaluation:**

The review did not include studies evaluating the cost-effectiveness of nurse's listening visits, which is essential for implementation.

****This scoping review provides substantial evidence supporting the implementation of nurse listening visits in NICUs to improve the emotional well-being of mothers. However, it also highlights the need for further research to address inconsistencies in the literature and to explore the long-term impacts and optimal delivery of these interventions.**

Conclusions

This scoping review on the implementation of nurse's listening visits in improving emotionally distressed mothers in Neonatal Intensive Care Units (NICUs) synthesizes evidence from various studies, providing a comprehensive overview of the current knowledge in this field. The review consistently demonstrates that nurse listening visits are an effective intervention for addressing maternal emotional distress in the NICU setting. These visits have shown positive impacts on reducing symptoms of anxiety, depression, and post-traumatic stress while also enhancing mother-infant bonding and maternal self-efficacy. This scoping review highlights the significant potential of nurses' listening visits as a

critical component of comprehensive NICU care. It provides a strong foundation for the further development and implementation of these interventions while also highlighting areas that require additional research and consideration.

Recommendations

Based on the findings of this scoping review, the following recommendations are proposed:

1. **Clinical Practice:**

- Implement nurse's listening visits as a standard component of NICU care.

- Initiate listening visits early in the NICU stay to prevent the escalation of emotional distress.

- Tailor the frequency and duration of visits to individual maternal needs and cultural contexts.

- Integrate listening visits with other NICU interventions for a holistic approach to care.

2. **Policy Development:**

- Develop policies that mandate emotional support interventions, including nurse listening visits, as part of standard NICU care.

- Allocate resources for the training and implementing nurse listening visits in NICUs.

- Establish guidelines for integrating listening visits with other NICU care practices.

3. **Education and Training:**

- Enhance nursing education programs to include training on emotional support techniques and implementing listening visits.

- Provide ongoing professional development for NICU nurses to improve their skills in conducting listening visits.

- Develop cultural competency training to ensure culturally sensitive and appropriate listening visits.

4. Research:

- Conduct more long-term follow-up studies to assess the enduring effects of nurse's listening visits.
- Investigate the optimal frequency, duration, and format of listening visits for maximum effectiveness.
- Explore the potential of technology-mediated listening visits, mainly in contexts where in-person visits may be challenging.
- Research the cost-effectiveness of implementing nurse's listening visits in various healthcare settings.
- Investigate the impact of nurse's listening visits on infant outcomes and overall family well-being.

5. Cultural Adaptation:

- Develop and evaluate culturally adapted versions of nurse's listening visits for diverse populations.
- Conduct cross-cultural studies to understand how the effectiveness of listening visits may vary across different cultural contexts.

6. Interdisciplinary Collaboration:

- Foster collaboration between nurses, mental health professionals, and other healthcare providers to enhance the effectiveness of listening visits.
- Explore the potential for involving other family members, such as fathers or partners, in listening visit interventions.

Implementing these recommendations can help healthcare systems work towards improving mothers' emotional well-being in the NICU, potentially leading to better outcomes for both mothers and infants. However, it is crucial to continue monitoring and evaluating these interventions to ensure their ongoing effectiveness and relevance in diverse healthcare contexts.

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