Jurnal
Berita Ilmu Keperawatan

Jurnal Berita Ilmu Keperawatan
Vol. 18 (2), 2025
p-ISSN: 1979-2697
e-ISSN: 2721-1797
https://doi.org/10.23917/bik.v18i2.8737

Psychosocial Conditions of Parents with Premature and Low Birth Weight Infants in Developing Countries: Scoping Review

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Abstract: *Premature and low birth weight (LBW) infants will increase the risk of mortality, morbidity, and disability, resulting in psychological distress felt by parents. The purpose of this scoping review is to map published articles related to the psychosocial conditions of parents who have premature and LBW infants, especially in developing countries. This study employed PCC Framework (Population, Concept and Context), Prisma ScR checklist, 3 databases (PubMed, Wiley Online Library, Taylor & Francis) and 1 gray literature (Research Rabbit), published from 2019-2024, in English, original articles, free full text, articles from developing countries and used quantitative and qualitative methods. This study used the keywords "Parents" AND "Low birth weight" OR "Psychological wellbeing" OR "Parental stress" OR "Psychosocial health" AND "Developing Countries". This scoping review used JBI Critical Appraisal Tools such as the Checklist for Analytical Cross-Sectional and Qualitative Research. Of the 1,939 articles selected through the Prisma Flowchart and Critical Appraisal using the Joanna Briggs Institute (JBI), 9 articles were found suitable. This study focused on social support provided to parents to reduce psychological problems and disorders and improve quality of life. This study highlights the importance of parents' support in preterm and LBW infants in developing countries, in order to minimize their psychological problems and disorders. The author suggests that the use of a qualitative research method for the next research should be applied to explore the psychological conditions of fathers who have premature and LBW infants in developing countries comprehensively.*

Keywords: *Developing Countries, Low Birth Weight, Parent, Psychological Distress, Quality of Life*

Submitted: 19 February 2025, revised: 25 March 2025, accepted: 3 May 2025, published: 23 July 2025

INTRODUCTION

In 2022, there were 2.3 million newborns, and 6,300 neonates died every day (WHO, 2024). Globally, the incidence of LBW is estimated to reach >20 million, and Asia is the country that contributes to LBW as much as 75% of the total live births each year. In 2020, the death of premature infants was 13.4 million, with a global preterm incidence ranging from 4 to 16%. In 2019, 900,000 infants died as a result of prematurity-related complications (WHO, 2023). The Indonesian Nutrition Status Survey (SSGI) found that 6.0% of Indonesians were LBW.

Preterm and LBW infants face a higher risk of mortality, morbidity, and disability than full-term infants. LBW infants are at risk of dying 40 times more often than normal-weight infants (Jones et al., 2023). Preterm infants require special care in the NICU to prevent complications. Preterm infants with low birth weights are less socially active, physiologically unstable, and passive. Parents suffer psychological stress from caring for preterm and LBW infants in the NICU. Role changes, worries, limited knowledge, increased hospital costs, and separation from the baby increase feelings of anxiety, sadness, failure, anger, and despair, and sometimes they experience sleep disturbances (Ong et al., 2018; Mengesha et al., 2022; Mutua et al., 2022; Shrestha et al., 2023; Pellegrino et al., 2024).

State of the prior research that mothers with preterm and LBW infants who are admitted to the NICU experience higher stress levels than mothers with normal-born infants (Ong et al., 2018; Mutua

et al., 2020, 2022; Pellegrino et al., 2024). Parents who have preterm and LBW infants need support to reduce stress and anxiety levels. In addition to moral support and sources of information related to the baby and its care, parents also need support from peer parents who have premature and LBW infants to share experiences (Mutua et al., 2022; Shrestha et al., 2023).

Not only mothers, but also fathers feel distressed if they have premature and LBW infants who are treated in the NICU. As a result of separation from their baby, fathers feel more emotional due to uncertainty about their baby's condition, and they often see infants die in the NICU. Fathers are also burdened with the additional responsibility of supporting their wives and their infants in the NICU both emotionally and instrumentally, which prevents them from working and puts them in a terrible financial situation (Mengesha et al., 2022; Shrestha et al., 2023). There is limited research on husbands' conditions.

The program from the Netherlands, namely TOP, works to improve the welfare of premature mothers from the time of hospital discharge until the first 12 months of life, either through in-hospital or home visits. Parents will be provided with informational support related to care and involvement in the care of preterm infants. Physicians, psychologists, and social workers are among the medical professionals who assist parents with their mental health while they are in the hospital. Meanwhile, pediatric physical therapists conduct home visits (Vriend et al., 2021).

In developing countries, this has not yet become a routine to support mental health for parents who have premature and LBW infants. This scoping review aims to (1) investigate the experiences of parents in developing countries who have LBW and preterm infants, (2) ascertain the impact of LBW and preterm infants on the mental health of parents in developing countries, and (3) identify the factors associated with the mental health of parents in developing countries who have LBW and preterm infants.

METHODS

This study conducted a scoping review to map the literature and identify gaps in the research area to be explored. This scoping review was written using the PRISMA-ScR Checklist, which includes 20 core reporting items and 2 optional items (Tricco et al., 2018). This study protocol was registered with the Open Science Framework (OSF) on January 29, 2025, with the DOI https://doi.org/10.17605/OSF.IO/DBVSY. This review was carried out employing the PCC framework, with P (Population) representing parents, C (Concept) representing low birth weight, psychological well-being, parental stress, and psychosocial health, and C (Context) representing developing countries.

This study's critical appraisal follows the Joanna Briggs Institute's standards, which employ a cross-sectional and qualitative research checklist that is helpful in assessing the quality of papers. One article was determined to be of inadequate quality out of the nine that underwent a critical appraisal since the study lacked a validated tool. Nine pertinent articles were analyzed thematically in order to find similarities. Quality of Life, Psychological Problems and Disorders (A1, A2, A3, A4, A5, A6, A7, A9), Instruments for Measuring Psychosocial Conditions of Parents of Premature and LBW Infants in Developing Countries (A2, A3, A4, A5, A7, A9), and Factors Associated with Psychological Well-Being of Parents of Premature and LBW Infants in Developing Countries (A1, A6, A7, A8) were the three main themes.

Eligibility Criteria

Eligibility criteria for articles employed in this review include original articles, free full-text and open-access papers published in English from 2019 to 2024, articles applying quantitative and qualitative methodologies, articles from developing countries based on the World Bank, articles discussing parents' involvement with preterm and LBW infants in developing countries, articles that discuss the psychological well-being of preterm and LBW infants' parents in developing countries, and articles that discuss the factors associated with the parents' psychological conditions with preterm and LBW infants in developing countries.

Data Sources

Three databases implemented in this scoping review are PubMed, Wiley Online Library, Taylor & Francis, and gray literature, namely, research rabbit published from January 2019 to December 2024 in English. Expanded keywords with MeSH, Boolean, and truncation used in this study have received team approval. The keywords are as follows: paren* OR mother OR father OR women AND low birth weight OR infant with low birth weight OR preterm birth OR premature infant OR premature neonat* OR preterm neonat* AND psychological wellbeing OR parental stress OR psychosocial health AND developing countr* OR low-income countr* OR middle-income countr*

Data extraction and data charting process

There are three authors in this scoping review who work together to develop the article from theme to publication. The first author (DW) plays a role in designing the theme or topic of the review, collecting evidence, selecting articles, writing manuscripts, and revising them until publication of manuscripts to the destination journal. The second author (CSP) plays a role in helping to find keywords, select articles, and review the preparation of manuscripts until the publication stage. Then, the third author (EKS) plays a role in determining the topic and the criteria in the manuscript. After identifying which articles were relevant, the reviewers collaborated to extract them into a Microsoft Excel spreadsheet. Three separate reviewers (DW, CSP, and EKS) independently extracted the data.

RESULTS

Based on search results from three databases (PubMed, Wiley Online Library, and Taylor & Francis) and one gray literature (Research Rabbit) published in 2019-2024 using Rayyan online software. The authors screened 1,939 articles and removed 5 duplicate articles using Mendeley. Next, 24 articles were selected based on title and abstract. After a complete reading based on population, research study, and results, 9 publications were obtained that fit the criteria of this review.

Article Characteristics

The article's findings demonstrated that the study implemented a qualitative method in three of the articles and a quantitative design in six of the articles. One study was carried out at home, while eight Studies concluded in hospital intensive care units. According to the World Bank, the publications that were assessed came from developing countries, including Malaysia (45%), Ghana (22%), Ethiopia (11%), Kenya (11%), and Nepal (11%). According to World Bank data, Malaysia was still a developing country at the time of this review, despite being designated as a developed country in 2025.

Data Charting

Data charting was carried out on 9 relevant articles, employing tables to describe significant points such as title, author, year of publication, country, objective, subjects, methodology, and study outcomes.

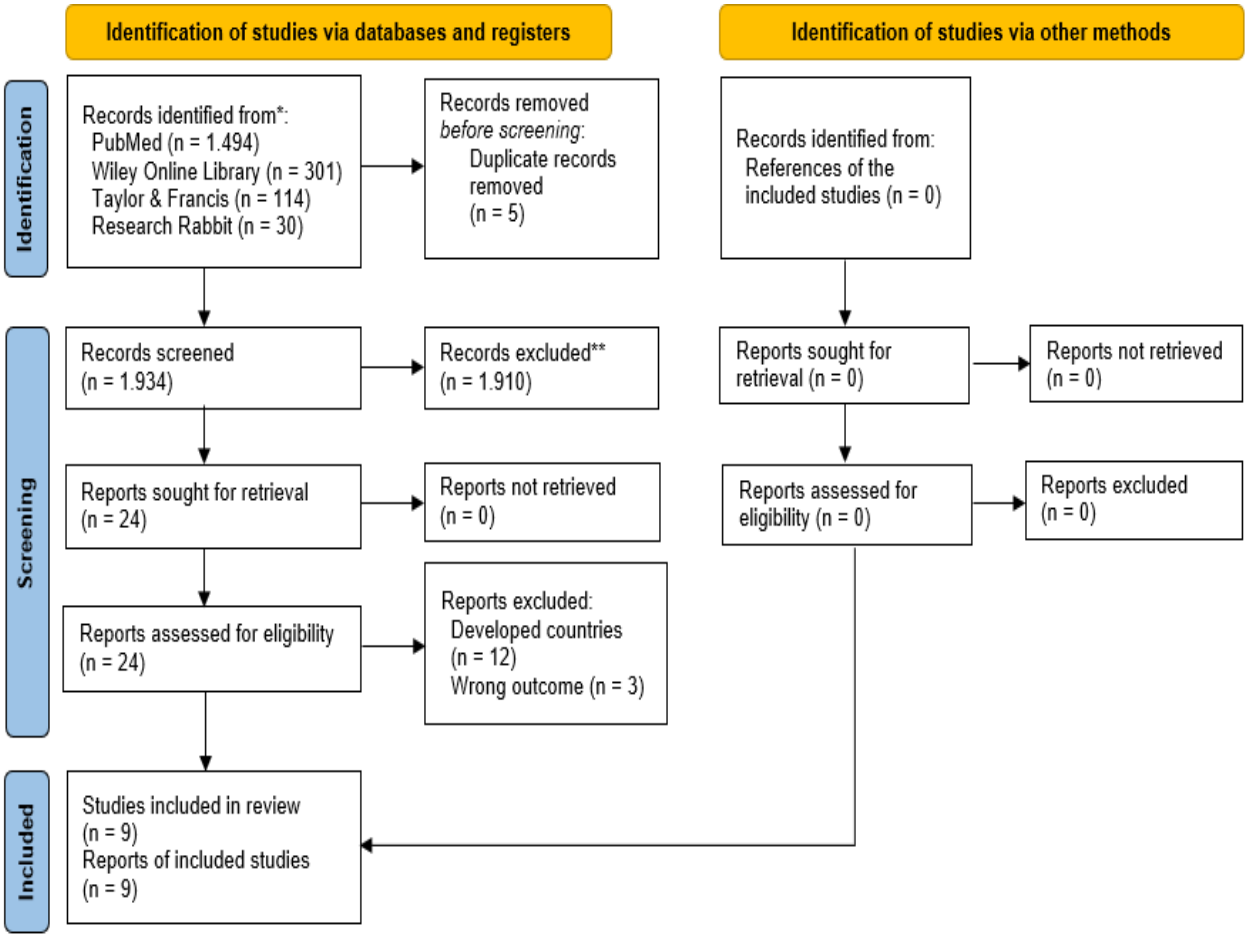

Figure 1. Prisma Flowchart

Article Assessment with JBI Critical Appraisal

The Joanna Briggs Institute (JBI) Critical Appraisal Tools, which include the Checklist for Analytical Cross-Sectional Studies and Qualitative Research, are used to evaluate the quality of the nine publications that were discovered. The quantitative critical appraisal (cross-sectional studies) is classified as A (19-24), B (9-18), and C (≤8). Qualitative critical appraisals can be graded as A (21-30 points), B (11-20 points), or C (≤10). The critical appraisal's overall findings indicated that while article A2 had good quality (grade B), articles A1, A3, A4, A5, A6, A7, A8, and A9 had very good quality (grade A). Cross-sectional methods are typically used in high-quality papers; research methodologies, criteria, samples, and sampling strategies are thoroughly explained; data collection techniques are used; and data analysis is done correctly. Even though article A2 employed a cross-sectional research design, the instruments employed had not been validated, and there was no explanation of confounding variables or how to account for them.

Table 1. Data Charting

Article ID/Title/Author/Year	Country	Research Objective	Methods	Research Results
A1/ Stress and Coping Strategies among Parents of Preterm Infants Admitted to Three Hospitals in Nepal/ (Shrestha et al., 2023)	Nepal	To investigate coping strategies and parental stress in the NICU.	Phenomenological qualitative research. Sample technique: purposive sampling. Participants: 10 mothers and 5 fathers. Data collection: in-depth interview. Data analysis: Colaizzi's method	Psychological stress on parents occurs due to separation, role changes, and prolonged care. Fathers also experience stress because they have to provide emotional and instrumental support. Coping strategies to overcome stress with support from the surrounding environment and experience.
A2/ Prevalence and risk factors for postpartum depression and stress among mothers of preterm and low birthweight infants admitted to a neonatal intensive care unit in Accra, Ghana (Pellegrino et al., 2024)	Ghana	To find out the incidence of postpartum depression, stress, and the risk factors among mothers in the NICU who have preterm and LBW infants.	Cross-sectional quantitative research. Participants: 255 mothers and infants. Data collection: PHQ-9 questionnaire, PSS-4. Data analysis: Shapiro-Wilk, multivariate linear regression.	The prevalence of moderate to moderately severe PPD was 3.9%, and PPD was 43.5%. There were 193 mothers with minimal PPD, 51 mothers with mild PPD, 6 mothers with moderate PPD, and 4 mothers with moderately severe PPD. Risk factors for PPD were PNC visits (p 0.004) and gestational age (p 0.022). There were 111 mothers with PPS. Risk factors for PPS were religion (p 0.027) and first ANC visit (p 0.011).
A3/ Quality of life among mothers of preterm newborns in a Malaysian neonatal intensive care unit/ (Ong et al., 2022)	Malaysia	to identify the variables associated with the quality of life of the mothers in the NICU after giving birth to premature infants.	Cross-sectional quantitative study. Participants: 180 mothers; sampling technique: non-probability convenience sampling. Data collection: QoL questionnaire, PSS, WHOQOL-BREF. Data analysis: independent t-test, ANOVA, and Pearson correlation.	The quality of life was higher for mothers with upper secondary or higher education than for those with only a secondary education (p 0.05). Compared to housewives, mothers who work in offices had a greater quality of life (p 0.05). The lowest average PSS score was seen for Sight & Sound (p = 0.252), followed by maternal role change (p = 0.310) and newborn behavior & look (p = 0.276).
A4/ Stress and anxiety among mothers of premature infants in a Malaysian neonatal intensive care unit (Ong et al., 2018)	Malaysia	For identifying how stressed and anxious mothers with premature infants in the NICU	Cross-sectional quantitative research. Participants: 18 mothers and infants. Sampling technique: non-probability convenience sampling. Data	Within mothers, 56.5% reported high levels of stress, 85.5% reported high levels of anxiety related to their health, and 67.8% reported high levels of anxiety related to their character. Sight & sound had the lowest mean scores (r = 0.290, p < 0.001), while role change (r = 0.232, p < 0.001) and newborn behavior and

			collection: PSS questionnaire, STAI. Data analysis: ANOVA, Pearson correlation, Spearman correlation coefficient, and chi-square.	appearance ($r = 0.286$, $p < 0.001$) were the most significant stresses.
A5/ A comparative study of postpartum anxiety and depression in mothers with pre-term births in Kenya (Mutua et al., 2022)	Kenya	To evaluate which mothers of preterm infants attending the NICU at Kenyatta National Hospital had comorbid postpartum anxiety and depression.	Cross-sectional quantitative research. Participants: 172 (86 preterm infants, 86 full-term infants). Data collection: K10 questionnaire, EPDS, PHQ4. Data analysis: chi-square and multivariate logistic regression.	The screening results showed that 75.6% of mothers with preterm infants had psychological distress, 75% had anxiety, and 77.6% had postpartum depression. 83.7% of women with preterm infants were those who tested positive for comorbid anxiety and depression (25%). Preterm was associated with a 5.75-fold increased risk ($p < 0.002$), domestic violence with a 4.76-fold increased risk ($p < 0.043$), and a history of psychological distress and depression with a 5.95-fold increased risk ($p < 0.001$).
A6/ Parental experiences in neonatal intensive care unit in Ethiopia: a phenomenological study (Mengesha et al., 2022)	Ethiopia	To investigate the real-life experiences of Ethiopian parents in NICU facilities.	Phenomenological qualitative research. Participants: 9 mothers and 9 fathers. Data collection: in-depth interview with thematic analysis.	Parents of infants in the NICU experienced boredom, exhaustion, and financial strain. Socioeconomic and psycho-emotional factors, a lack of information from medical professionals, the baby's poor health, which will increase parental stress, and the insufficient facilities and services are becoming the factors that affect parents' experiences in the NICU.
A7/ Maternal wellbeing of Malaysian mothers after the birth of a preterm infant (Jones et al., 2023)	Malaysia	To determine the correlation between Malaysian mothers' quality of life and preterm birth, as well as the association between demographic factors and QoL	Descriptive quantitative research. Participants: 3,211 (254 preterm and 2,967 aterm infants). Data collection: demographic questionnaire, WHOQOL-BREF. Data analysis: chi-square test, Wilcoxon analysis, and simple and multiple regression.	This study found that 92.1% of newborns were full-term, 0.5% were very premature, and 7.9% were premature (under 37 weeks). Preterm gestational age, low levels of education, and having undergone an emergency cesarean section were all significantly ($p<0.05$) linked to a lower quality of life.
A8/ Maternal social support and resilience in caring for preterm newborns at the neonatal intensive	Ghana	To explore mothers' social support and resilience when caring for premature	Exploratory qualitative research. Sample technique: purposive sampling. Participants: 15 mothers. Semi-	Social support is needed for mothers when caring for premature infants, such as informational support related to baby care; instrumental support will make mothers feel helped and not isolated; and

care unit (NICU): A qualitative study/ (Eduku et al., 2024)		infants in the NICU	structured interviews were applied for data collection, and thematic content has been employed for data analysis.	psychosocial support, such as sympathy, empathy, and spiritual support, will improve maternal coping when caring for premature infants.
A9/ Psychological Well-being of Mothers with Low Birth Weight (LBW) Infants Using DASS-21 Scales (Latif et al., 2022)	Malaysia	To explore the psychological well-being of mothers who have LBW and are admitted to the NICU	Cross-sectional quantitative research. Participants: 130 respondents. Sampling technique: convenience sampling. Data collection: DASS 21 questionnaire. Data analysis: chi-square	Mothers with LBW had a DASS-21 screening score of 13.8% for mild depression, 15.4% for moderate depression, and 3.1% for severe depression. 8.5% of people had mild anxiety, 30% had severe anxiety, and 10.8% had severe anxiety. The prevalence of stress symptoms was 22.3% (mild), 11.5% (moderate), and 4.6% (severe). Age is a risk factor for stress and anxiety ($p < 0.05$).

Table 2. Critical Appraisal

Question	Analytical cross-sectional studies (8-item question)						Analytical qualitative studies (10-item question)		
	A2	A3	A4	A5	A7	A9	A1	A6	A8
Q1	3	3	3	3	3	3	3	3	3
Q2	3	3	3	3	3	3	3	3	3
Q3	2	3	3	3	3	3	3	3	3
Q4	3	3	3	3	3	3	3	3	3
Q5	1	1	1	1	1	1	3	3	3
Q6	1	1	1	1	1	1	1	1	3
Q7	2	3	3	3	3	3	3	3	1
Q8	3	3	3	3	3	3	3	3	3
Q9	-	-	-	-	-	-	3	3	3
Q10	-	-	-	-	-	-	3	3	3
Total score	18	20	20	20	20	20	28	28	28
Grade	B	A	A	A	A	A	A	A	A

Thematic analysis

The authors used narrative summaries to present major topics in a thematic format. Three main themes emerged from the study, all of which align with the scoping review's goals about the psychological circumstances of parents of LBW and preterm infants in developing countries. The outcomes of this review's theme and sub-theme analysis are as follows:

Theme 1: Quality of Life, Psychological Problems and Disorders

Quality of Life in Parents with Premature and LBW Infants in Developing Countries

The average total life quality score of mothers with preterm and LBW infants was moderate. Young mothers show better marital quality and psychological well-being. This is supported by Malay cultural traditions that provide enough support so that postpartum mothers do not experience many difficulties. Social support from sharing information and experiences during the postpartum period can improve quality of life. Mothers working in governmental areas are risking having a good quality of life due to longer paid leave so that the economy is stable **(A3)**. On the other hand, the low quality of life of mothers is caused by sleep disturbances, activity limitations, premature gestation, low education level, and history of cesarean section **(A3, A7)**.

Symptoms of Problems and Disorders in Parents with Premature and LBW Infants in Developing Countries

The stress condition of mothers with preterm and LBW infants based on PSS scores was high at 43.5%; DASS-21 scores showed low at 22.3%, moderate at 11.5%, and higher at 4.6% **(A2, A9)**. Mothers with preterm infants experienced higher stress levels (85.5%); the main causes were changes in the mother's role due to separation from the baby, inability to breastfeed, and prolonged care of the baby **(A1, A3, A4, A6)**. Islamic cultural traditions dictate that mothers must stay at home for 40 days after giving birth, which makes it difficult for moms to see their children. As a result, Muslim mothers reported higher rates of stress than non-Muslim mothers. In addition, delaying PNC adds to the psychological burden because in the management of high-risk pregnancies **(A2)**. The instability of the baby's condition also increases stress as parents feel worried **(A6)**. Fathers also experience stress as they have to provide emotional support and physical care and are unable to work, adding to the economic burden **(A1)**.

In the NICU, mothers of preterm infants expressed 67.8% anxiety about circumstances and 85.5% anxiety about conditions **(A4).** The incidence of anxiety in mothers with preterm infants was 75.6% **(A5)**. Based on the DASS-21 scale assessment, the percentage of mothers with premature infants in the mild category was 8.5%, moderate 30%, severe 10.8%, and very severe 9.2% **(A9)**. Risk factors that increase anxiety in mothers are when they are separated from their infants **(A6)**. In addition, anxiety will increase due to situational factors, especially when the mother first visits the NICU; new and unfamiliar environments will increase anxiety symptoms **(A4, A6)**.

Mothers with preterm and LBW infants experienced postpartum depression (PPD) with a percentage of 76% in the minimal category, 20% mild PDD, 2% moderate PDD, and 2% severe PDD. Risk factors for postpartum depression are PNC visits; mothers who regularly attend PNC because of complications during pregnancy will increase anxiety and depression. Mothers with preterm births are also at risk of PPD, as preterm and LBW infants increase the incidence of mortality and smaller physical appearance of the baby **(A2)**. In addition, premature birth causes the mother to be unprepared for childbirth, the baby's condition is vulnerable, and the mortality rate is high. There are domestic violence and the environment in the NICU is frightening, increasing psychological distress, which will raise the prevalence of anxiety and depression **(A5)**. Maternal age and stress and anxiety are significantly correlated; mothers under 30 years old are more likely to experience depression than mothers over 31 **(A9)**.

Theme 2: Instruments Used to Measure Psychosocial Conditions of Parents with Premature and LBW Infants in Developing Countries

Stress Measurement Instrument

Four questions on feelings and thoughts over the previous month are asked as part of the PSS-4 (Perceived Stress Scale-4), a test designed to measure stress levels. A Likert scale with a range of 0 (never) to 4 (very often) is used to score responses. An elevated stress level is indicated by a final score of at least 6; if it exceeds 6, it will be referred to a counselor **(A2)**. The NICU PSS was revised by Miles (1993) and consists of 26 questions related to sight & sound (5 questions), newborn behavior and appearance (14 questions), and maternal role change (7 questions). Measurement was on a 5-point Likert scale that ranged from 1 (not stressed at all) to 5 (extremely stressed) and 0 (no experience or not applicable). PSS scores were classified into high (4-5), medium (3-3.99), and low (1-2.99) **(A3, A4)**. The Depression Anxiety Stress Scales (DASS-21) is a tool to assess depression, anxiety, and stress conditions by Lovibond (1995). There are 7 questions to assess stress, namely questions number 1, 6, 8, 11, 12, 14, and 18. The final score is by summing the values of the questions and multiplying by 2. The DASS 21 scale divides stress scores into five categories: mild (15–18), moderate (19–25), severe (26–33), and extremely severe (37+) **(A9)**.

Anxiety Measurement Instruments

Spielberg and Gorsuch (1983) created the State-Trait Anxiety Inventory (STAI), a tool that is used to measure anxiety, including overwhelm, terror, and difficulty relaxing. 40 questions about state anxiety

(20) and trait anxiety (20) make up the instrument. A four-point Likert scale is used to calculate scores, which add up to a total between 20 and 80. Higher scores correspond to higher anxiety levels **(A4)**. Charles R. Kesler created the Kessler-10 (K-10) in 1956 as a tool for measuring anxiety and depression symptoms over a 4-week period. There are fourteen questions about depression and anxiety symptoms. Five points are awarded for filling in 1 to 5 constantly. The K-10 score is low (10–15), moderate (16–21), high (22–29), and extremely high (>30). Lovibond developed the Depression Anxiety Stress Scales (DASS-21) to scale psychological disorders such as stress, anxiety, and depression (1995). Questions 2, 4, 7, 9, 15, 19, and 20 indicate the seven questions used to quantify anxiety. The results are calculated by adding together all of the question scores and then multiplying the total by two. The DASS 21 scale divides anxiety scores into five categories: mild (8–9), moderate (10–14), severe (15–19), and very severe (20+) **(A9)**.

Depression Measurement Instrument

The PHQ-9, which consists of nine questions given over the course of the previous two weeks, is a tool used to measure depression levels. A four-point Likert scale is used to score responses: 0 means "not at all," 1 means "some days," 2 means "more than half the days," and 3 means "almost every day." Depression is categorized into minimal (0–4), mild (5–9), moderate (10–14), fairly severe (15–19), and severe (20–27) categories based on the score in total, ranging from 0 to 27 **(A2)**. In addition to the PHQ-9, there is a PHQ-4 measuring scale to measure anxiety and depression simply by Kroenke, Spitzer, Williams, & Löwe (2009). The evaluation process involves the score addition and classification as normal (0–2), moderate (3–5), and severe (9–12). Cox, JL, Holden, JM, and Sagovsky, R. (1987) created the 10-item Edinburgh Postnatal Depression Scale (EPDS), a measure for screening for postnatal depression within the last seven days. A score of more than 13 on the EPDS, which ranges from 0 to 30, denotes sadness **(A5).** Lovibond developed the Depression Anxiety Stress Scales (DASS-21) to scale psychological disorders such as stress, anxiety, and depression (1995). Questions 3, 5, 10, 13, 16, 17, and 21 are among the seven items used to measure depression. The scores of the marked questions are added up, and the result is then multiplied by two. The DASS 21 scale divides stress scores into five categories: normal (0–9), mild (10–13), moderate (14–20), severe (21–27), and very severe (28+) **(A9)**.

Quality of Life Measurement Instrument

The WHOQOL-BREF questionnaire, which was recommended by the World Health Organization (1998), was used to measure quality of life. There were 24 questions divided into four categories: environment (8 questions), social interactions (3 questions), psychological (6 questions), and physical (7 questions). Each component's score is calculated on an ascending scale. Elements 3, 4, and 26 were recoded, and the elements were averaged for each domain. To match the ratings on the original WHOQOL-100, the resultant scores were transformed to 4-20 (multiplied by 4). Each domain's quality of life is positively correlated with higher domain scores **(A3, A7)**.

Theme 3: Factors Associated with Psychological Well-Being of Parents with Premature and LBW Infants in Developing Countries

Social Support for Parents with Premature and LBW Infants

Social support for parents who have premature and LBW infants is very important to reduce anxiety and increase resilience. The type of support needed includes informational support. This support is provided by health workers related to the care and condition of premature infants. Nurses provide information through electronic media that can be accessed anytime and anywhere. Mothers will receive assistance in caring for their infants from husbands, parents, friends, family, and health professionals in addition to financial, emotional, and physical support. In order to foster resilience in the care of premature infants, health professionals, spouses, families, and religious leaders provide psychosocial support in the form of empathy, consolation, encouragement, and a sense of security. Additionally, the mother's resistance will be strengthened by spiritual assistance like prayers **(A1, A7, A8)**.

Socioeconomics for Parents with Premature and LBW Infants

Parents in the NICU struggle with financial limitations because of the length of their child's stay, which can be expensive, as well as extra expenses for food, transportation, and medication. Additionally, parents expressed dissatisfaction with the length of their treatment period and the frequency of their NICU visits, citing the lengthy drive from their homes to the healthcare facility **(A6)**. When LBW and preterm newborns were admitted to the NICU, their fathers would take time from work to care for their infants. This exacerbates the financial strain of being unable to work, leading to financial difficulties **(A1)**.

DISCUSSION

Based on the review, psychological problems and disorders were found in parents with preterm and LBW infants, such as stress, anxiety, worry, and depression. Parents with preterm and LBW infants had a prevalence of stress (high) of 43.5%, anxiety of 75.6%, and minimal depression of 76%. Parents of premature infants are at twice the risk of experiencing depressive symptoms such as fatigue, loss of control, anxiety, and sadness (Carson et al., 2015). According to the findings of this review, symptoms of psychological problems and disorders shown, such as feelings of sadness, guilt, fear, and anger, can lead to loss of interest in activities, despair, sleep disturbances, and suicidal thoughts (Latif et al., 2022; Mengesha et al., 2022; Shrestha et al., 2023; Pellegrino et al., 2024).

Causes of stress and anxiety were found to be due to separation from the baby being treated in the NICU, the occurrence of role changes in parents, and prolonged care (Shrestha et al., 2023). In line with (Carson et al., 2015; Pellegrino et al., 2024) parents having premature infants are not mentally prepared for intensive baby care, separation of mother and baby, and the long-term impact on premature infants, which increases the chance of postpartum depression. In addition, the parents who are traumatized due to domestic violence and a stressful NICU environment can boost the incidence of anxiety and depression (Mutua et al., 2022).

The quality of life of parents who have premature and LBW infants is influenced by social support from partners, parents, health workers, and friends. Parents' quality of life will improve as more support is received. The development of parents' coping mechanisms is influenced by social support, which encompasses instrumental, emotional, and informational support. Research by Bry & Wigert (2019), states that parents with premature infants need emotional support from health workers, friends, and relatives to improve psychological well-being. According to Eduku et al., (2024), the support most needed by mothers is instrumental support in the form of financial and baby care because after giving birth, the mother will experience fatigue, and the length of care in the NICU will result in increased financial expenses. In accordance with research (Mengesha et al., 2022; Eduku et al., 2024), explaining that mothers lacking help from health workers, such as baby care education and affection from NICU nurses, will have a negative impact.

In this review, there are instruments that can be used to determine the psychological condition of parents, including stress measurement (PSS NICU, PSS 4), depression measurement (DASS-21, PHQ 4, PHQ-9, EPDS), anxiety measurement (STAI, K-10), and quality of life measurement (WHOQOL). DASS 21 is an instrument that has covered the measurement of depression, anxiety, and stress symptoms in the world. The results of research by Bottesi et al., (2015), DASS-21 showed consistency values in community and clinical samples were very good. In accordance with (Latif et al., 2022), that the DASS-21 scale proved to be a reliable and valid measurement when assessing psychometric properties for undergraduate students in Malaysia. However, according to (Zanon et al., 2021), the results stated that the DASS-21 scale could not distinguish between stress and unpleasant engagement, besides the possibility of cultural bias occurring because the questions could not be translated or were not culturally appropriate.

The EPDS and PHQ-9 instruments have been valid and reliable for measuring depression. PHQ-9 and EPDS have differences, such as EPDS is specifically designed for postpartum depression, whereas PHQ-9 for general depression screening covers a wider range of symptoms. According to Gyimah et al., (2024), the EPDS screening tool is the most acceptable tool based on flexibility and sensitivity. Supported by (Santos et al., 2016), EPDS questions are easier to recall answers to than PHQ-9. The use

of EPDS and PHQ-9 instruments should not be done simultaneously, as it increases depressive disorders (Zhong et al., 2014).

In addition, the WHOQOL and WHOQOL-BREF instruments by WHO are cross-culturally applicable well-being assessment instruments that are declared valid and reliable, having several question points related to physical, psychological, social, and environmental well-being (Ong et al., 2022). According to (Siafaka et al., 2022), the WHOQOL instrument has been administered to different populations and has been developed into various languages, thus showing good internal validity of the questionnaire. According to Uddin & Islam (2019), most cross-cultural studies of the WHOQOL-BREF are valid and reliable structures that have been tested, so this instrument is suitable for use in international collaborative research.

The limitation of this scoping review is that the findings of most articles use cross-sectional studies, so the psychological problems felt by parents who have premature and LBW infants may not have been explored in depth. It is expected to use a qualitative design to explore in depth the psychological conditions of parents who have premature and LBW infants in developing countries. There are instruments that have not been tested for validity. To get the best research results, validity and reliability tests are needed on the instruments to be used. In addition, based on literature findings, there are many studies that discuss maternal conditions even though the authors have used the keyword parents. It turns out that the findings that discuss the psychological condition of husbands or fathers are still limited. Thus, it is expected to examine the psychological conditions of fathers who have premature and LBW infants in developing countries.

CONCLUSION

Based on the nine articles that have been reviewed, mothers who have premature infants are at higher risk of experiencing psychological issues and disorders. Besides, fathers also have the similar feeling because they have to provide support to their wives even though fathers also need support. This scoping review highlights the need for support for parents of preterm and LBW infants in developing countries, which is expected to reduce psychological problems and disorders. Thus, the social support provided will shape the coping of mothers and fathers to be able to care for their infants.

AUTHORS' CONTRIBUTION STATEMENT

The first author (DW) was responsible for conceptualizing the research, writing, editing, and publishing the manuscript. The second author (CSP) contributed to finding keywords and reviewing the manuscript. The third author (EKS) contributed to reviewing the manuscript.

FUNDING

In this scoping review, researchers did not receive funding from any party.

ACKNOWLEDGMENTS

The authors would like to express thankfulness to Universitas 'Aisyiyah Yogyakarta for the support and facilitation of this review.

CONFLICT OF INTEREST

The paper's authors affirm that the study is without conflicts of interest.

ETHICAL STATEMENT

This study did not require ethical approval because the scoping review only mapped the results of previous studies.

DATA AVAILABILITY

This scoping review does not analyze new data; this study only maps or analyzes the results of previous studies that have been cited in the references. Therefore, there is no new data available for this review.

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