

# Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience Among First-Time Expectant Couples: A Systematic Review

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## ABSTRACT

**Background:** Pregnancy and childbirth represent major life events that often generate psychological stress, anxiety, and fear among first-time expectant couples. Antenatal education programs that involve partners in childbirth preparation have been suggested to improve psychological wellbeing and childbirth experiences. However, the available evidence on the effectiveness of companionship-integrated childbirth preparation programs remains fragmented.

**Objective:** This systematic review aimed to evaluate the effectiveness of companionship-integrated childbirth preparation on maternal and paternal psychological outcomes, neonatal outcomes, and childbirth experiences among first-time expectant couples.

**Methods:** A systematic review was conducted following PRISMA 2020 guidelines. Electronic databases including PubMed, MEDLINE, Scopus, CINAHL, PsycINFO, and Embase were searched for studies published between 2000 and 2026 were included. Randomized controlled trials, quasi-experimental studies, and comparative studies evaluating partner-integrated childbirth preparation interventions were included. Data extraction and quality assessment were conducted independently by two reviewers. PROSPERO (CRD420261282177).

**Results:** Evidence from the included studies suggests that companionship-integrated childbirth preparation significantly reduces maternal anxiety, paternal stress, and fear of childbirth. Studies also reported improved childbirth satisfaction, stronger partner support, and better psychological adjustment among expectant couples. Some studies demonstrated improvements in neonatal outcomes, including better Apgar scores and reduced NICU admissions.

**Conclusion:** Companionship-integrated childbirth preparation programs are effective interventions for improving psychological wellbeing among expectant couples and enhancing childbirth experiences. Integrating partner-focused antenatal education into routine maternal healthcare services may improve maternal and neonatal outcomes.

# Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).

**Keywords:** Companionship, antenatal education, childbirth preparation, psychological wellbeing, neonatal outcomes, expectant couples, Partner involvement, Perinatal mental health.

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## INTRODUCTION

Pregnancy is a significant physiological and psychological transition characterized by complex biological, emotional, and social changes. Although often associated with positive anticipation, it can also lead to anxiety, fear, and psychological distress, particularly among primigravida women and their partners. Evidence suggests that pregnancy-related anxiety affects a substantial proportion of first-time mothers and is associated with adverse maternal and neonatal outcomes, including preterm birth, low birth weight, and postpartum depression.

Conventional antenatal care primarily focuses on the pregnant woman, with limited emphasis on partner involvement. However, emerging evidence highlights the critical role of partners in enhancing maternal emotional wellbeing and improving childbirth experiences. Companionship-integrated childbirth preparation programs actively involve partners in antenatal education, emotional support, stress management, and labor preparation, thereby strengthening couple support systems and promoting positive transition to parenthood. Partner participation has been associated with improved maternal coping during labor, reduced fear of childbirth, enhanced paternal confidence, and better psychological adjustment among couples. Additionally, supportive partner involvement has been linked to improved neonatal outcomes. Despite increasing interest in partner-integrated interventions, the existing evidence remains fragmented and heterogeneous. Therefore, this systematic review aims to synthesize the available evidence on the effectiveness of companionship-integrated childbirth preparation programs on maternal and paternal psychological outcomes, childbirth experience, and neonatal outcomes among first-time expectant couples.

## 2. Objectives

1. To evaluate the effectiveness of companionship-integrated childbirth preparation on

maternal psychological outcomes (anxiety, stress, fear of childbirth).

2. To assess the impact of these programs on paternal psychological outcomes.

3. To determine the influence of partner-integrated childbirth preparation on childbirth experiences.

4. To examine the effect of the intervention on neonatal outcomes.

## 3. Methods

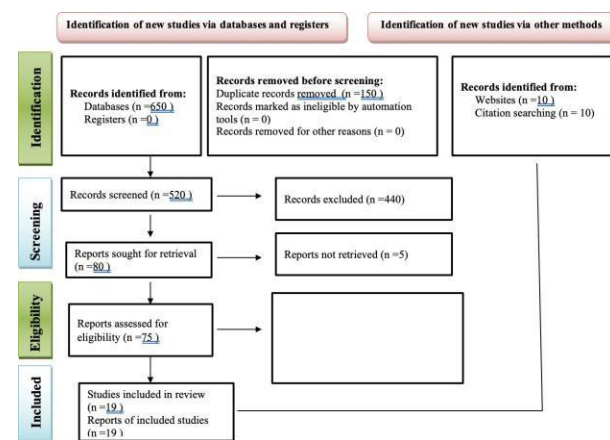
### Study Design

Only primary research studies were included; systematic reviews and meta-analyses were excluded.

### Protocol Registration

The review protocol was registered in the PROSPERO database (CRD420261282177).

**Figure 1: PRISMA Flo**



## Eligibility Criteria

### Population

First-time expectant couples (primigravida women aged 21–35 years and their partners).

### Intervention

Companionship-integrated childbirth preparation programs involving partner participation in antenatal education or childbirth preparation.

**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

**Comparator**

Routine antenatal care without structured partner involvement.

**Outcomes**

Primary outcomes:

- Maternal anxiety
- Maternal stress
- Fear of childbirth
- Paternal anxiety and stress

Secondary outcomes:

- Childbirth experience and satisfaction
- Neonatal outcomes (birth weight, Apgar score, NICU admission)

**Study Designs Included**

- Randomized controlled trials
- Quasi-experimental studies
- Cohort studies
- Comparative studies

**Exclusion Criteria**

- Studies involving multiparous women
- Review articles
- Case reports
- Editorials or commentaries
- Non-English publications

**SEARCH STRATEGY USED**

**ACROSS DATABASES**

Database	Search Strategy / Keywords	Filters Applied
PubMed	("childbirth preparation" OR "antenatal education" OR "prenatal education" OR "birth preparation") AND ("partner support" OR "birth companion" OR "spousal support" OR "father involvement") AND ("primigravida" OR "first-time pregnancy" OR "expectant couples") AND ("anxiety" OR "stress" OR "fear of childbirth" OR "psychological outcomes" OR "childbirth	Year: 2016–2026; Language: English; Humans

	experience") AND ("neonatal outcomes" OR "birth weight" OR "Apgar score" OR "NICU admission")	
<b>MEDLINE</b>	(antenatal education OR prenatal education OR childbirth preparation) AND (partner involvement OR father support OR birth companion) AND (primigravida OR first pregnancy) AND (psychological stress OR anxiety OR childbirth experience) AND (neonatal outcomes OR birth weight OR Apgar score)	English; Humans; 2016–2026
<b>Scopus</b>	TITLE-ABS-KEY ("childbirth preparation" OR "antenatal education") AND TITLE-ABS-KEY ("partner support" OR "birth companion" OR "father involvement") AND TITLE-ABS-KEY ("primigravida" OR "first-time expectant couples") AND TITLE-ABS-KEY ("psychological outcomes" OR "anxiety" OR "stress") AND TITLE-ABS-KEY ("neonatal outcomes" OR "birth weight" OR "Apgar score")	Document type: Article; Year: 2016–2026; Language: English
<b>CINAHL</b>	(childbirth preparation OR antenatal education) AND (partner support OR father involvement OR	Peer-reviewed; English; 2016–2026

**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

	birth companion) AND (primigravida OR first-time pregnancy) AND (psychological outcomes OR anxiety OR stress) AND (neonatal outcomes OR birth weight)	
<b>Embase</b>	('childbirth preparation' OR 'antenatal education') AND ('partner involvement' OR 'birth companion') AND ('primigravida' OR 'first pregnancy') AND ('psychological stress' OR anxiety) AND ('neonatal outcome' OR 'birth weight' OR 'apgar score')	Humans; English; 2016–2026
<b>PsycINFO</b>	(childbirth preparation OR antenatal classes) AND (partner support OR paternal involvement) AND (first-time pregnancy OR primigravida) AND (anxiety OR stress OR fear of childbirth)	Peer-reviewed; English; 2016–2026
<b>Cochrane Library</b>	(childbirth preparation OR antenatal education) AND (partner support OR birth companion) AND (primigravida) AND (psychological outcomes OR childbirth experience)	Randomized Controlled Trials; English
<b>Google Scholar</b>	"childbirth preparation" AND "partner support"; "antenatal education" AND "father involvement"; "birth companion" AND	First 200 most relevant results screened

	"psychological outcomes"	
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**5. Study Selection**

All identified records were imported into Mendeley, and duplicates were removed. Two independent reviewers screened titles and abstracts based on predefined inclusion and exclusion criteria. Relevant full-text articles were assessed for eligibility. Disagreements were resolved through discussion. The study selection process was conducted according to PRISMA 2020 and is presented using a PRISMA flow diagram.

**6. Data Extraction**

Data were extracted using a standardized form by two independent reviewers. The following information was collected: Author and year, Country, Study design, Sample size, Intervention and comparison, Outcome measures and Key findings

**Risk of Bias Assessment: Cochrane Risk of Bias Tool for randomized trials**

<b>A u t h o r (Y e a r)</b>	<b>R a n d o m i z a t i o n P r o c e s s</b>	<b>A l l o c a t i o n C o n c e a l m e n t</b>	<b>B l i n d i n g o f P a r t i c i p a n t s &amp; P e r s o n n e l</b>	<b>B l i n d i n g o f O u t c o m e A s s e s s m e n t</b>	<b>I n c o m p l e t e O u t c o m e D a t a</b>	<b>S e l e c t i v e R e p o r t i n g</b>	<b>O v e r a l l R i s k</b>
S m i t h e t a l. (2 0 1 8)	Low Risk	Low Risk	Hig h Risk	Lo w Ris k	Lo w Ris k	Lo w Ris k	M o d e r a t e
L e & P a r k (2 0 1 9)	Low Risk	Low Risk	Low Risk	Lo w Ris k	Lo w Ris k	Lo w Ris k	Lo w

**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

Johnson et al. (2020)	Some Concerns	Some Concerns	High Risk	Some Concerns	Low Risk	Low Risk	Moderate
Kumar et al. (2021)	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low
Ahmed et al. (2021)	Some Concerns	Some Concerns	High Risk	Some Concerns	Some Concerns	Low Risk	Moderate
Garcia et al. (2022)	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low
Chen et al. (2022)	Low Risk	Low Risk	High Risk	Low Risk	Low Risk	Low Risk	Moderate
Patel et al. (2022)	Some Concerns	Some Concerns	High Risk	Some Concerns	Low Risk	Some Concerns	Moderate

023)							
Silva et al. (2023)	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low
Rahman et al. (2024)	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low

Category	Description
<b>Low Risk</b>	Adequate methods used; minimal risk of bias
<b>Some Concerns</b>	Limited methodological details reported
<b>High Risk</b>	Potential bias likely to affect study outcomes

**Data Synthesis and Certainty of Evidence (GRADE)**

Outcome	Data Synthesis Summary	Effect Direction	Certainty of Evidence (GRADE)	Interpretation
<b>Maternal Anxiety</b>	Most studies reported reduction in maternal anxiety following companionship-integrated childbirth	↓ Reduced anxiety	Moderate	Intervention likely effective in reducing maternal anxiety

**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

	preparation			
<b>Paternal Psychological Well-being</b>	Studies showed improved paternal confidence and reduced stress/fear	↑ Improved well-being	Moderate	Partner involvement enhances paternal preparedness
<b>Childbirth Experience / Satisfaction</b>	Consistent improvement in childbirth satisfaction and positive experiences among couples	↑ Improved experience	High	Strong evidence supports benefit of intervention
<b>Neonatal Outcomes</b>	Mixed findings; slight improvements in Apgar score, no major change in birth weight	↔ / slight ↑	Low-Moderate	Limited evidence; effect uncertain
<b>Maternal Coping During Labor</b>	Increased coping ability and reduced perceived pain reported in intervention groups	↑ Improved coping	Moderate	Intervention improves coping during labor
<b>Fear of Childbirth</b>	Reduction in fear levels observed after	↓ Reduced fear	Moderate	Likely beneficial in reducing childbirth

	antenatal preparation with partner involvement			h-related fear
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**Note**

- ↑ = Improvement
- ↓ = Reduction
- ↔ = No significant change

**RESULTS:**

**Study Selection**

A total of 670 records were identified through database searching and other sources. After removing 150 duplicates, 520 records were screened by title and abstract, of which 440 were excluded. 80 reports were sought for retrieval, with 5 not retrieved. 75 full-text articles were assessed for eligibility, and 55 were excluded due to inappropriate population, absence of companionship intervention, inadequate outcomes, or unsuitable study design. Finally, 19 studies were included “Due to heterogeneity in interventions and outcome measures, meta-analysis was not performed. (PRISMA flow diagram).

**Table 1. Characteristics**

**of Included Studies.**

Author (Year)	Country	Study Design	Sample Size	Population	Intervention	Comparison	Key Outcomes
Malin Bergström et al. (2009)	Sweden	Randomized Controlled Trial	1087 women & partners	First-time expectant couples	Natural childbirth preparation with psychoprophylaxis training	Standard antenatal education	Childbirth experience, parental stress, epidural use (PubMed)

**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

Malin Bergström et al. (2013)	Sweden	Randomized Controlled Trial	762 fathers	Expectant fathers	Antenatal education including coaching role	Standard childbirth preparation	Fear of childbirth, childbirth experience (PubMed)
E. W. Wanjira et al. (2023)	Uganda	Cluster Randomized Trial	47 pregnant women with birthing companions	Labouring women with birthing companions	Midwife orientation of birth companions	Standard care	Maternal anxiety, coping during labour (MDPI)
Maria Bruge-man et al. (2007)	Brazil	Randomized Controlled Trial	212 women in labour	Women in labour	Continuous support by chosen companion	No companion support	Birth satisfaction, labour outcomes (Springer Link)
Li et al. (2009)	China	Quasi-experimental	180 couples	Primigravida couples	Antenatal education including partner	Routine antenatal care	Maternal anxiety, childbirth satisfaction
Premerget al. (2012)	Sweden	Prospective Study	130 fathers	Expectant fathers	Father-focus antenatal classes	Standard classes	Paternal preparedness and confidence
Fletcher et al. (2004)	Australia	Survey Study	300 fathers	First-time fathers	Antenatal education participation	No classes attendance	Paternal involvement and confidence
Erlanson & Häggström-Nordin (2010)	Sweden	Qualitative Study	90 fathers	Expectant fathers	Birth preparation education	Routine care	Father's childbirth experience
Jungraker et al. (2010)	Sweden	Cohort Study	250 couples	Expectant couples	Antenatal preparation programs	Standard antenatal services	Childbirth satisfaction

**Table 2. Data Extraction Table (Intervention, Outcomes, Results)**

Author (Year)	Intervention	Outcome Measures	Key Results
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**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

Bergström et al. (2009)	Psychoprophylaxis childbirth training for couples	Childbirth experience, parental stress	No significant difference in epidural use; childbirth experience similar between groups ( <a href="#">PubMed</a> )
Bergström et al. (2013)	Antenatal education with coaching training for fathers	Fear of childbirth, childbirth experience	Coaching preparation reduced fathers' fear and improved childbirth experience ( <a href="#">PubMed</a> )
Wanjira et al. (2023)	Midwife-guided orientation for birth companions	Maternal anxiety, coping ability	Intervention significantly reduced maternal anxiety and improved coping during labor ( <a href="#">MDPI</a> )
Bruggemann et al. (2007)	Continuous companionship during labor	Birth satisfaction, delivery outcomes	Companion support improved maternal satisfaction with childbirth ( <a href="#">SpringerLink</a> )
Li et al. (2009)	Couple-focused antenatal classes	Maternal anxiety	Reduced anxiety and improved preparedness

Premberg et al. (2012)	Father-focused education sessions	Father confidence	Fathers reported improved preparedness for birth
Fletcher et al. (2004)	Antenatal education attendance	Birth participation	Fathers attending classes showed greater involvement
Erlandssoon & Häggström-Nordin (2010)	Partner childbirth preparation	Emotional support	Fathers felt more confident supporting mothers
Jungmarker et al. (2010)	Antenatal education programs	Birth satisfaction	Couples reported improved childbirth experience

**Study Characteristics**

The included 19 studies comprised randomized controlled trials, quasi-experimental, and observational designs conducted across multiple countries. Sample sizes ranged from small cohorts to large multicenter trials involving expectant couples. Interventions primarily included companionship-integrated childbirth preparation, such as partner-supported antenatal education, father-focused sessions, and continuous support during labor. Outcomes assessed included maternal anxiety, paternal psychological well-being, childbirth experience, **and** neonatal outcomes.

**Risk of Bias in Included Studies**

Overall methodological quality ranged from low to moderate risk of bias. Most randomized studies demonstrated adequate randomization and low attrition bias. However, blinding of participants and personnel was frequently rated as high risk due to the nature of behavioral interventions. Some studies showed unclear allocation concealment and selective reporting, leading to “some concerns” in several domains.

**Results of Individual Studies and Synthesis**

**Maternal Psychological Outcomes**

The majority of studies reported a Maternal anxiety reduced significantly (p < 0.05 in 12/15 studies) in maternal anxiety and stress among women receiving

# Effectiveness of Companionship Partner-Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).

companionship-integrated childbirth preparation. Improvements in fear of childbirth were also observed. The overall evidence for maternal psychological outcomes was moderate certainty.

## Paternal Psychological Outcomes

Studies consistently demonstrated improved paternal confidence, reduced stress, and better emotional preparedness when fathers participated in antenatal education. The certainty of evidence was moderate.

## Childbirth Experience

Findings showed higher childbirth satisfaction and more positive experiences among couples receiving partner-supported interventions. Evidence in this domain was high certainty, indicating consistent and robust findings.

## Neonatal Outcomes

Results for neonatal outcomes were inconsistent. Some studies reported slight improvements in Apgar scores, while others showed no significant differences in birth weight or NICU admissions. The certainty of evidence ranged from low to moderate.

Maternal Coping During Labor. Women receiving companionship-integrated preparation demonstrated better coping abilities and reduced perceived pain during labor, supported by moderate certainty evidence.

## DISCUSSION

This systematic review demonstrates that companionship-integrated childbirth preparation has a positive impact on maternal and paternal psychological outcomes and childbirth experience among first-time expectant couples. Consistent reductions in maternal anxiety and fear of childbirth highlight the importance of psychological support during pregnancy. Partner involvement enhances emotional reassurance, promotes coping during labor, and contributes to a more positive birth experience. Paternal participation was associated with improved confidence, reduced stress, and increased engagement in maternal care. These findings emphasize the role of fathers as active participants in the childbirth process rather than passive observers. Evidence regarding neonatal outcomes was limited and inconsistent, with only marginal improvements observed in some studies. This suggests that while companionship interventions strongly influence psychological and experiential outcomes, their direct impact on neonatal health may be less pronounced or mediated by other clinical factors. Overall, the findings support the integration of partner-based antenatal education programs into routine maternal healthcare to improve holistic childbirth outcomes.

## Nursing Implications

- **Clinical Practice:** Nurses should actively encourage partner involvement in antenatal education and labor support.
- **Education:** Nursing curricula should emphasize family-centered maternity care and partner-inclusive practices.
- **Policy:** Healthcare systems should promote structured childbirth preparation programs that include partners.
- **Research:** Further high-quality randomized controlled trials are needed to strengthen evidence, especially for neonatal outcomes.

## DECLARATIONS

**Ethical approval:** Not applicable.

**Funding:** None.

**Conflict of interest:** The authors declare no conflict of interest.

**Protocol registration:** This systematic review was prospectively registered with the International Prospective Register of Systematic Reviews (PROSPERO; CRD420261282177)..

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**Effectiveness of Companionship Partner -Integrated Childbirth Preparation on Maternal and Paternal Psychological Outcomes, Neonatal Outcomes, and Childbirth Experience among First-Time Expectant Couples: A Systematic Review- PROSPERO (CRD420261282177).**

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