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ESTRATÉGIAS DOS ENFERMEIROS OBSTETRAS PARA A PROMOÇÃO DA INTEGRIDADE PERINEAL NO PARTO VAGINAL: SCOPING REVIEW

NURSE MIDWIVES´ STRATEGIES FOR PROMOTING PERINEAL INTEGRITY IN VAGINAL DELIVERY: SCOPING REVIEW

ESTRATEGIAS DE LAS ENFERMERAS MATRONAS PARA PROMOVER LA INTEGRIDAD PERINEAL EN EL PARTO VAGINAL: SCOPING REVIEW

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RESUMO

Introdução: As lacerações perineais são um desfecho frequente do parto vaginal, com impacto negativo na saúde física e emocional da mulher. A implementação de práticas baseadas na evidência, que respeitem a fisiologia do parto e a autonomia da mulher, é fundamental para a sua prevenção.
Objetivo: Mapear as estratégias utilizadas pelos enfermeiros obstetras para a promoção da integridade perineal no contexto do trabalho de parto.
Métodos: Realizou-se uma Scoping Review segundo a metodologia do Joanna Briggs Institute (JBI) e as orientações PRISMA-ScR. Foram incluídos estudos publicados entre 2020 e 2025, em português, inglês ou espanhol, disponíveis em texto completo, que descrevessem intervenções aplicadas por enfermeiros obstetras no contexto do trabalho de parto. A pesquisa foi realizada nas bases de dados PubMed, Scopus e EBSCOhost. A extração e síntese dos dados permitiram a categorização temática das estratégias identificadas.
Resultados: Foram incluídos 22 estudos, dos quais emergiram sete categorias principais de estratégias: massagem perineal, compressas mornas, posições maternas dinâmicas, técnicas manuais de proteção perineal, uso de lubrificantes vaginais, bundles de cuidados e presença de duas parteiras no período expulsivo. Estas práticas demonstram benefícios na redução de lacerações perineais, no aumento do conforto materno e no reforço da autonomia da mulher.
Conclusão: Os enfermeiros obstetras assumem uma missão central na promoção da integridade perineal, contribuindo para partos mais seguros, fisiológicos e centrados na mulher.

Palavras-chave: enfermeiros obstétricos; lacerações; parto; períneo; enfermagem baseada em evidências

ABSTRACT

Introduction: Perineal lacerations are a frequent outcome of vaginal birth, with a negative impact on women's physical and emotional health. Implementing evidence-based practices that respect the physiology of childbirth and women's autonomy is fundamental to preventing them.
Objective: Map the strategies used by obstetric nurses to promote perineal integrity in the context of labor.
Methods: A scoping review was carried out using the Joanna Briggs Institute (JBI) methodology and PRISMA-ScR guidelines. Studies published between 2020 and 2025, in Portuguese, English, or Spanish, available in full text, describing interventions applied by obstetric nurses in the context of labor were included. The search was carried out in the PubMed, Scopus, and EBSCOhost databases. Data extraction and synthesis enabled thematic categorization of the strategies identified.
Results: 22 studies were included, from which seven main categories of strategies emerged: perineal massage, warm compresses, dynamic maternal positions, manual perineal protection techniques, use of vaginal lubricants, care bundles, and the presence of two midwives during the expulsive period. These practices show benefits in reducing perineal lacerations, increasing maternal comfort, and strengthening women's autonomy.
Conclusion: Obstetric nurses play a key role in promoting perineal health, contributing to safer, more natural and woman-centred births.

Keywords: nurse midwives; lacerations; parturition; perineum; evidence-based nursing

RESUMEN

Introducción: Las laceraciones perineales son un resultado frecuente del parto vaginal, con un impacto negativo en la salud física y emocional de las mujeres. Implementar prácticas basadas en la evidencia que respeten la fisiología del parto y la autonomía de la mujer es fundamental para prevenirlas.
Objetivo: Mapear las estrategias utilizadas por las enfermeras obstétricas para promover la integridad perineal en el contexto del trabajo de parto.
Métodos: Se realizó una revisión de alcance utilizando la metodología del Instituto Joanna Briggs (JBI) y las directrices PRISMA-ScR. Se incluyeron estudios publicados entre 2020 y 2025, en portugués, inglés o español, disponibles en texto completo, que describieran intervenciones aplicadas por enfermeras obstétricas en el contexto del trabajo de parto. La búsqueda se realizó en las bases de datos PubMed, Scopus y EBSCOhost. La extracción y síntesis de los datos permitieron la categorización temática de las estrategias identificadas.
Resultados: Se incluyeron 22 estudios, de los que surgieron siete categorías principales de estrategias: masaje perineal, compresas calientes, posturas maternas dinámicas, técnicas manuales de protección perineal, uso de lubricantes vaginales, paquetes de cuidados y presencia de dos matronas durante el periodo expulsivo. Estas prácticas muestran beneficios en la reducción de las laceraciones perineales, el aumento del confort materno y el fortalecimiento de la autonomía de la mujer.
Conclusión: Las enfermeras obstétricas desempeñan un papel fundamental en la promoción de la integridad perineal, contribuyendo a que los partos sean más seguros, fisiológicos y centrados en la mujer.

Palabras clave: enfermeras obstetrices; laceraciones; parto; perineo; enfermería basada en la evidencia

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INTRODUCTION

Labor is a physiological process that results in the dilation of the cervix, the passage of the fetus through the birth canal, and its expulsion into the external environment via the vagina. This is a unique moment for every woman and her family. However, it can be associated with possible complications that affect maternal health (Bączek et al., 2022; Graça, 2017).

The perineal body, located between the anus and the vaginal vestibule, is formed by muscles and other anatomical structures that support the pelvic outlet and, during pregnancy, receives increased blood flow, which can cause injury due to excessive distension during childbirth. Some studies indicate that 85% to 90% of women experience some degree of perineal laceration after childbirth, with second-degree lacerations being particularly frequent, with a higher incidence among primiparas (Ramar et al., 2024; Bączek et al., 2022).

Perineal lacerations are a common complication of vaginal delivery and can range from minor tears to severe injuries involving the anal sphincter. Table 1 shows their classification based on Sultan's classification system for perineal trauma, which has been internationally validated by the Royal College of Obstetricians and Gynecologists (RCOG, 2015).

Table 1 – Classification of the degree of perineal laceration

Degree of Perineal Tears	Description of the level of perineal tears
First-degree	Laceration involving only the vaginal epithelium or perineal skin.
Second-degree	Laceration involving the perineal muscles (vaginal epithelium, perineal skin, fascia) but not the anal sphincter.
Third-degree	Injury involving the anal sphincter complex. III a: Less than 50% of the External Anal Sphincter (EAS) thickness is torn. III b: More than 50% of the EAS thickness is torn. III c: Both EAS and the Internal Anal Sphincter (IAS) are torn.
Fourth-degree	A third-degree tear with additional disruption of the anal epithelium (anal canal/rectum).

Source: Royal College of Obstetricians and Gynecologists (RCOG, 2015)

These injuries can negatively impact women's quality of life, resulting in complications such as persistent perineal pain, sexual dysfunction, and fecal and urinary incontinence (Bączek et al., 2022). Therefore, identifying risk factors is essential for implementing effective preventive strategies in obstetric care.

With regard to maternal factors associated with an increased risk of perineal tears, the most notable are advanced maternal age, primiparity, body mass index (BMI), history of previous cesarean section, and Asian ethnicity (Bączek et al., 2022).

Studies indicate that Asian ethnicity may be a significant risk factor for severe perineal tears during vaginal delivery (Park et al., 2023; Wheeler et al., 2012). A meta-analysis conducted by Park et al. (2023) revealed that Asian women have a 1.6 times higher risk of developing obstetric anal sphincter injuries compared to Caucasian women. However, authors such as Park et al. (2023) and Wheeler et al. (2012) note that the increased incidence of perineal lacerations in Asian women in Western countries is not observed in populations residing in Asia, suggesting that environmental factors and local obstetric practices play a relevant role. Other possible explanatory factors include anatomical differences, such as a shorter and less elastic perineum, higher rates of episiotomies, instrumental deliveries, and linguistic and cultural barriers that hinder communication with healthcare professionals (Park et al., 2023).

Among the fetal factors that contribute to the occurrence of perineal lacerations, birth weight and head circumference are particularly noteworthy. Newborns weighing more than 4000 g significantly increase the risk of perineal injuries due to the need for greater distension of the perineum during fetal passage (Bączek et al., 2022).

In addition to maternal and fetal characteristics, both labor dynamics and care provided during delivery influence the incidence of perineal lacerations. The use of instruments is one of the main risk factors. Fetal positioning, particularly the occipital posterior position, also increases the incidence of severe perineal lacerations. Episiotomy, although historically used as a strategy to prevent severe spontaneous lacerations, has been widely debated. Midline episiotomy is associated with an increased risk of severe perineal tears, while mediolateral episiotomy has not been shown to be significantly protective (Pergialiotis et al., 2020; Franchi et al., 2020). Thus, the selective use of episiotomy, only when there is a clear clinical indication, has been recommended by scientific literature. Mediolateral episiotomy, for example, is recommended in specific cases, such as instrumental vaginal deliveries, as it significantly reduces the obstetric risk of anal sphincter injuries (Okeahialam et al., 2024; Franchi et al. 2020).

Other relevant factors during labor include induction and acceleration of labor, use of epidural anesthesia, and maternal position during delivery (Bączek et al., 2022). The maternal position during delivery also directly influences the occurrence of perineal trauma. Supine or lithotomy positions have been associated with a higher risk of laceration, while more physiological positions, such as lateral, kneeling, or squatting, seem to reduce this occurrence (Okeahialam et al., 2024).

The World Health Organization (WHO), in its recommendations for care during labor, suggests adopting techniques to reduce perineal trauma and facilitate a more spontaneous birth. In the context of the second stage of labor, perineal massage, the application of warm compresses, and active protection of the perineum with the hand are recommended. These practices should

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be performed according to the woman's preferences and the options available in health care, ensuring a safer and more respectful delivery (WHO, 2018).

In this context, obstetric nurses play an essential role in preserving perineal integrity through early identification of risk factors, the application of evidence-based interventions, and emotional support for women before, during, and after childbirth. In line with the guidelines of international organizations such as the WHO, this respectful maternity care promotes an integrated and culturally sensitive approach to childbirth (OE, 2015; WHO, 2018).

In this sense, this study aims to map and identify the strategies used by obstetric nurses to promote perineal integrity in the context of labor. The term “obstetric nurses” was chosen because it is more concise, widely used in clinical practice in Portugal, and recognized as a descriptor, which facilitates the indexing and retrieval of studies. In this context, it will be used comprehensively to refer to professionals with specialized skills in the area of maternal and obstetric health.

1. METHODS

A Scoping Review (ScR) was conducted in accordance with the JBI methodology for scoping reviews, following the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist (Amendoeira, 2021). The PRISMA-ScR flow diagram used describes the flow of information throughout the different stages of the review, including the inclusion and exclusion criteria, the number of studies selected and eliminated, as well as the reasons underlying these decisions. Its protocol began in March and is registered on the Open Science Framework (OSF) platform with the following registration number: DOI 10.17605/OSF.IO/H7KFZ.

1.1 Research question

The formulation of the research question follows Peters' (2020) recommendation, which proposes the use of the mnemonic “PCC” — Population, Concept, and Context — as a guide for developing clear and focused questions. Based on this model, the research question for this study is: “What strategies have been used by obstetric nurses to promote perineal integrity in the context of labor?”

The use of the PCC structure helps to organize the question objectively, ensuring that all relevant elements are covered, as shown in Table 2.

Table 2 - PCC mnemonic

P	Population	Women in labor
C	Concept	Strategies used by obstetric nurses to promote perineal integrity
C	Context	Labor

1.2 Eligibility Criteria

With regard to inclusion criteria, this review included studies addressing strategies used by obstetric nurses to preserve women's perineal integrity during labor. We selected articles available in Portuguese, English, or Spanish, provided they involved women in labor and described specific interventions applied by obstetric nurses. A time limit of the last five years was established, justified by the rapid evolution of obstetric care practices and the adoption of new international recommendations, with the aim of incorporating updated evidence that reflects the most recent clinical practices and guidelines.

Studies that did not clearly show the participation of obstetric nurses in childbirth care were excluded. Studies focused exclusively on describing perineal complications without mentioning preventive measures were also excluded. Additionally, studies that did not focus on the second stage of labor were excluded.

Table 3 presents the defined inclusion and exclusion criteria.

Table 3 – Inclusion and exclusion criteria

Inclusion Criteria	Exclusion criteria
Studies addressing strategies used by obstetric nurses to promote perineal integrity	Studies that do not clearly show the participation of obstetric nurses in childbirth care.
Studies involving women in labor	Qualitative studies or experience reports that do not describe concrete interventions or strategies.
Studies describing interventions/strategies applied by obstetric nurses	Studies focused exclusively on describing perineal complications, without reference to preventive measures.
Publications in Portuguese, English, or Spanish.	Studies that do not address the second stage of labor, in order to limit the focus of the review to the phase most directly related to perineal protection.
Studies published in the last five years.	

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1.3 Sources, information, and research strategy

The search strategy for SR, as recommended by the JBI manual, began with an initial exploratory search on the PubMed platform, integrating several databases specializing in health sciences and selecting all of their databases. In addition, gray literature was consulted to identify terms and keywords frequently used in the titles and abstracts of relevant studies.

Subsequently, a structured and systematic search was conducted in the PubMed and Scopus databases and the EBSCOhost search engine, accessed through the Online Catalog | EDS of the University of Évora using the Complementary Index, MEDLINE Ultimate, Open AIRE, Supplemental Index, J-STAGE, and Directory of Open Access Journals databases. The search strategy will involve combining DeCS/MeSH terms and keywords using the Boolean operators "OR" and "AND" in the aforementioned databases.

Table 4 presents the search strategies applied on the platforms mentioned.

Table 4 – Search expression by database.

Plataform	Search formula	Automatic Limiters	Results
Pubmed	**S1:** (Midwifery OR "Nurse Midwives" OR "Obstetric Nursing" OR midwife OR midwives OR "nurse midwife" OR "obstetric nurse") AND (Perineum OR "Perineal Trauma" OR "Perineal Protection" OR "Perineal Care" OR "Perineal Outcomes") AND ("Labor, Obstetric" OR Childbirth OR "Delivery, Obstetric" OR "Normal Birth") AND (Prevention OR "Protective Strategies" OR "Clinical Strategies" OR "Midwifery Techniques")	- Last 5 years - Full text - Portuguese, English, and Spanish	25
	S2: ("Labor, Obstetric" OR "Delivery, Obstetric" OR Childbirth OR Labour) AND ("Midwifery" OR "Midwives" OR "Midwife" OR "Obstetric Nursing") AND ("Perineal Techniques" OR techniques OR "Perineal Protection" OR Prevention OR "Preventive Strategies") AND ("Perineal Injuries" OR Perineum OR "Perineal Trauma" OR "Perineal Tear" OR "Perineal Laceration" OR "Perineal Integrity")	- Last 5 years - Full text - Portuguese, English, and Spanish	169
EBSCOhost Utilizando as bases de dados: - Complementary Index - MEDLINE Ultimate - Open AIRE - Supplemental Index - J-STAGE - Directory of Open Access Journals	**S1:** TX (Midwifery OR "Nurse Midwives" OR "Obstetric Nursing" OR midwife OR midwives OR "nurse midwife" OR "obstetric nurse") AND AB (Perineum OR "Perineal Integrity" OR "Perineal Trauma" OR "Perineal Protection" OR "Perineal Care" OR "Perineal Outcomes") AND TX ("Labor, Obstetric" OR Childbirth OR "Delivery, Obstetric" OR "Normal Birth") AND TX (Prevention OR "Protective Strategies" OR "Clinical Strategies" OR "Midwifery Techniques")	- Last 5 years - Full text via editor - Scientific journals (peer-reviewed) - Portuguese, English, and Spanish	193
	S2: TX ("Labor, Obstetric" OR "Delivery, Obstetric" OR Childbirth OR Labour) AND TX ("Midwifery" OR "Midwives" OR "Midwife" OR "Obstetric Nursing") AND AB ("Perineal Techniques" OR techniques OR "Perineal Protection" OR Prevention OR "Preventive Strategies") AND TX ("Perineal Injuries" OR Perineum OR "Perineal Trauma" OR "Perineal Tear" OR "Perineal Laceration" OR "Perineal Integrity")	- Last 5 years - Full text via editor - Scientific journals (peer-reviewed) - Portuguese, English, and Spanish	373
Scopus	("Labor, Obstetric" OR "Delivery, Obstetric" OR Childbirth OR Labour) AND ("Midwifery" OR "Midwives" OR "Midwife" OR "Obstetric Nursing") AND ("Perineal Techniques" OR techniques OR "Perineal Protection" OR Prevention OR "Preventive Strategies") AND ("Perineal Injuries" OR Perineum OR "Perineal Trauma" OR "Perineal Tear" OR "Perineal Laceration" OR "Perineal Integrity")	- Last 5 years - English and Spanish - All Open Access	55

The search was conducted between March and April 2025, and studies were selected based on predefined inclusion and exclusion criteria. The selected articles were imported into the RAYYAN review manager. This system automatically removed duplicates, and those that were not automatically detected were manually deleted. Subsequently, two independent reviewers analyzed the texts based on the title and abstract, classifying them as "included," "excluded," or "maybe," according to the previously established inclusion criteria. The reviewers followed a consensus protocol that ensures uniformity in the application of the article evaluation criteria according to the research question.

In the event of a tie or conflict, a third reviewer would be introduced, but this was not necessary.

After this stage, the texts included were read in full, also by two independent reviewers. There was no disagreement between the opinions, so it was not necessary for a third reviewer to participate in the final decision.

As this is an SR, rigorous methodological evaluation of the included studies and bias risk analysis are not applicable, since the objective is to broadly map the available evidence. This characteristic distinguishes SRs from other types of systematic reviews, prioritizing the comprehensiveness of information over the individual methodological quality of the studies (Sousa et al., 2018).

The search of the selected databases resulted in 2,168 articles, of which 700 were identified in PubMed, 1,292 in EBSCOhost, and 176 in Scopus. After applying automatic eligibility filters, 1,537 records were excluded. Next, 176 duplicates were removed, totaling 430 articles submitted for manual screening.

During the screening phase, titles and abstracts were read, leading to the exclusion of 380 articles that did not fit the research question. We then proceeded to read 50 studies in full, of which 28 were excluded based on the following criteria: Studies in which

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the participation of obstetric nurses in childbirth care was not clearly verified (n=17); Studies that did not provide relevant information to answer the research question. (n=1); Qualitative studies or experience reports that did not describe strategies/interventions applied by obstetric nurses (n=5); Studies that did not address the second stage of labor (n=1); Studies that did not meet the time limit (n=4). Thus, 22 studies were included in the final synthesis. The entire process of identifying, screening, eligibility, and inclusion of studies was systematized according to the PRISMA 2020 flowchart, in accordance with the methodological guidelines of the JBI (Peters et al., 2020).

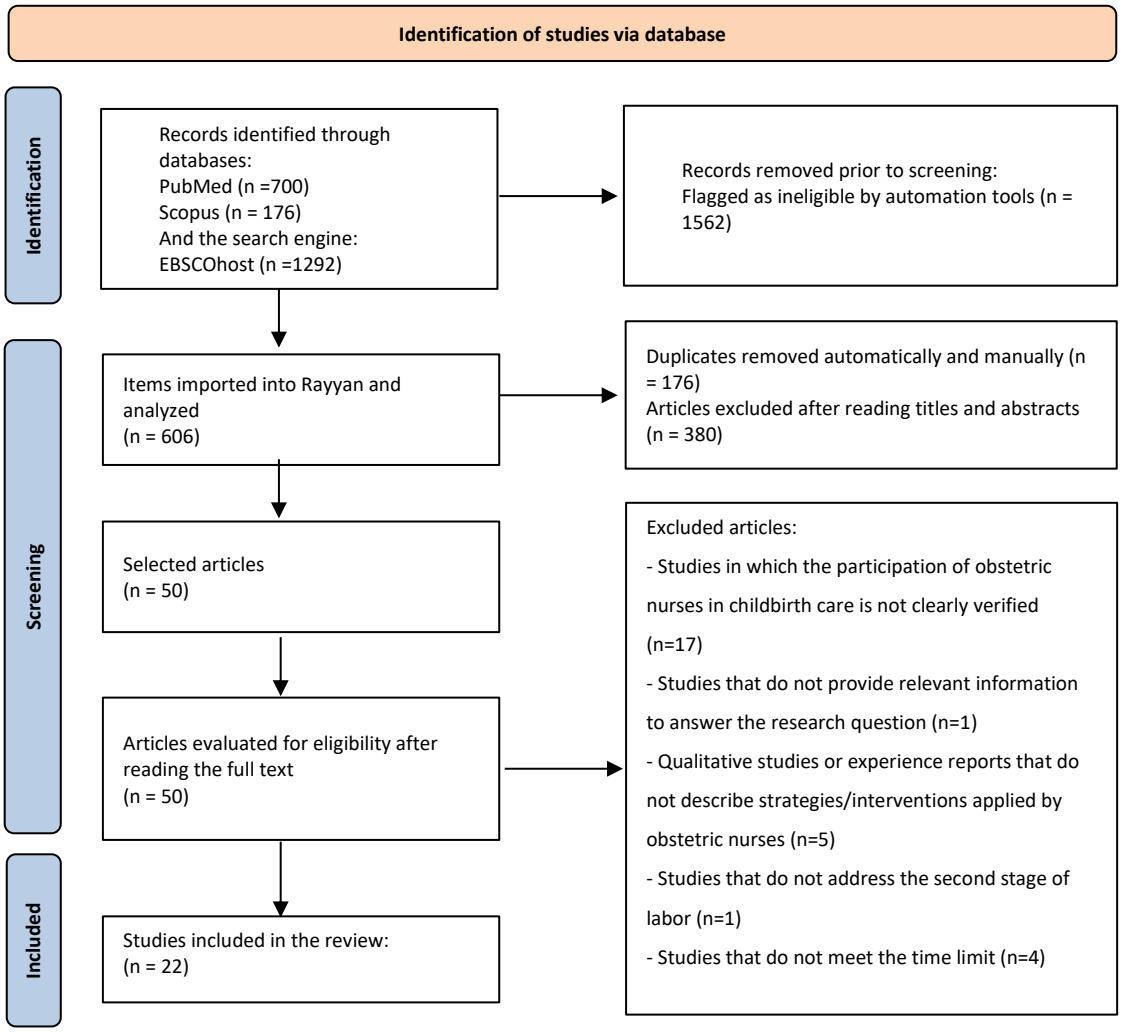

Figure 1- Prism Flowchart

2. RESULTS

To systematize the information obtained in the selected studies, an extraction table was developed based on JBI guidelines. The table includes: title, authors, year of publication, objectives, methodology, and participants, context, strategies applied by obstetric nurses in promoting perineal integrity, as well as the main conclusions/recommendations highlighted by the authors, and can be seen in Table 5.

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Table 5 – Table for extracting data from articles

Article title	Objective of the Study	Methodology/Context	Strategies used by the Obstetric Nurse	Conclusions/Recommendations suggested by the study
Perineal massage and warm compresses – Randomised controlled trial for reduce perineal trauma during labor (Rodrigues et al., 2023)	To evaluate the effect of perineal massage and warm compresses on perineal integrity during the second stage of labor.	Randomized clinical trial. The study was conducted at Braga Hospital. Perineal protection techniques were applied during the second stage of labor, with the intervention conducted by previously trained obstetric nurses.	Intervention Group: Perineal massage performed between contractions during the second stage of labor and application of warm compresses during contractions Control Group: Hands-on technique to control expulsion by maintaining fetal head flexion.	The combination of perineal massage with warm compresses is safe, effective, and well accepted, increasing the rate of intact perineums and reducing lacerations, episiotomies, and anal sphincter injury. Its inclusion in practice and training is recommended, respecting the autonomy of women.
Perineal protection methods: knowledge and use (Martínez et al., 2021)	Analyze the degree of knowledge and use of perineal protection methods during the expulsive stage by healthcare professionals involved in childbirth, verifying compliance with World Health Organization (WHO) recommendations.	Quantitative, descriptive, cross-sectional study. Gynecology and Obstetrics Unit, Santa Lucía University General Hospital (Cartagena, Spain) The study was conducted as part of an effort to align institutional practices with international recommendations for promoting physiological childbirth.	Obstetric nurses demonstrated greater knowledge and use of evidence-based strategies, including: Hands-on technique (active manual protection of the perineum); Hands-off technique; Application of warm compresses; Adoption of physiological maternal postures; Control and delay of expulsive efforts; and Use of lubricants.	The study identified significant gaps in knowledge and application of perineal protection methods among the different professionals involved in childbirth, especially among physicians. In contrast, midwives and nurses demonstrated greater mastery and use of internationally recommended strategies, highlighting their central role in implementing up-to-date perineal protection practices.
Effects of different techniques during the second stage of labour on reducing perineal laceration: An overview of systematic reviews (Zang et al., 2022)	To summarize the existing evidence on the effects of different techniques applied during the second stage of labor on reducing perineal tears, based on available systematic reviews.	Overview of systematic reviews. Studies conducted in various obstetric settings and countries, focusing on the application of non-invasive interventions by healthcare professionals, namely midwives and obstetricians, during the second stage of labor.	Perineal massage; Application of warm compresses; Manual protection techniques (hands-on, hands-off, and Ritgen maneuver); Promotion of upright positions; Spontaneous and directed pushing efforts.	The review points to perineal massage and warm compresses as most effective in preventing severe lacerations, while the Ritgen maneuver and upright positions may increase second-degree lacerations. It advocates for the involvement of women in choosing techniques and the need for more robust studies.
Midwives' practices on perineal protection and episiotomy decision-making: A qualitative and descriptive study (Rodrigues et al., 2024)	To understand midwives' practices regarding perineal protection during the second stage of labor, with an emphasis on decision-making for performing episiotomies.	Qualitative, descriptive, and explanatory study. Delivery unit of a tertiary public hospital in northern Portugal, with a high rate of episiotomies (47.4%).	Promotion of childbirth in positions other than lithotomy, such as the lateral or sitting position; Application of warm compresses; Hands-on technique (control of head exit and flexion); Hands-off technique (no touching of the perineum); Promotion of spontaneous expulsive efforts; Continuous presence of the midwife as a facilitating factor in the application of perineal protection techniques.	The study reveals discrepancies between midwives' practices and scientific evidence, with frequent use of episiotomy outside of recommendations. Greater professional training and empowerment of women for informed decisions during childbirth are recommended.
Improving Apgar scores and perineal injuries through midwife-led quality improvements: an observational study in (Blomgren et al., 2025)	Explore the impact of dynamic positions, intrapartum support, and perineal protection on the incidence of perineal tears and Apgar scores at 5 minutes, in the context of a midwife-led intervention.	Prospective observational study. Public hospital in Uganda with a high birth rate and limited resources; intervention conducted as part of a continuous quality improvement program led by midwives.	Promotion of dynamic birthing positions (sideways, squatting, kneeling); Continuous support during labor (emotional, physical, and informational); Perineal protection techniques (manual support, two-stage delivery, and spontaneous pushing).	The implementation of midwife-led, woman-centered, evidence-based interventions significantly reduced rates of perineal tears and low Apgar scores. The study recommends the adoption of midwife-led approaches as effective strategies for improving maternal and neonatal care, especially in low-income countries.
Practices of midwives working in delivery rooms for protection of perineum during intrapartum period and their feedback on these applications (Akın et al., 2020)	To determine the practices used by midwives working in delivery rooms to protect the perineum during intrapartum and to obtain their feedback on these practices.	Descriptive, cross-sectional study. Delivery room of a university hospital in Turkey. 46 midwives.	The study identifies several practices used during the second stage of labor, including: Manual perineal protection techniques (hands-on, hands-off/poised); Warm compresses; Application of lubricating gel; Maternal positions; and Episiotomy.	There are significant differences between the practices reported by midwives and those actually observed during childbirth. Midwives tend to overestimate the use of evidence-based strategies, such as warm compresses and alternative positions. The study highlights the need for: greater training and updating of professionals in perineal protection practices; reinforcing the actual implementation of the strategies they claim to know; promoting consistency between knowledge, discourse, and clinical practice during the expulsive stage.

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Article title	Objective of the Study	Methodology/Context	Strategies used by the Obstetric Nurse	Conclusions/Recommendations suggested by the study
Perineal massage and warm compresses – Implementation study of a complex intervention in health (Rodrigues et al., 2025)	To evaluate the impact of multifaceted and tailored strategies on the acceptability, appropriateness, feasibility, and adoption of the perineal massage and warm compress technique by nurse midwives in a tertiary hospital in Portugal.	Implementation study using mixed methodology. Maternity ward of a tertiary public hospital in Portugal, with approximately 3,000 births per year, where the care model does not guarantee continuous individual monitoring by midwives.	Midwives applied perineal massage techniques and warm compresses during the second stage of labor, adapting the intervention to the woman's needs and preferences. They promoted comfortable positions and respected her autonomy. Implementation was accompanied by ongoing training, provision of educational materials, changes to clinical records, and support from coordinators to reinforce and supervise the practice.	The study concluded that the application of diversified strategies adapted to the context facilitated the use of perineal massage and warm compresses by midwives, contributing to a reduction in episiotomies and more woman-centered care. It is recommended to invest in training, educational materials, and team support, and to evaluate whether these interventions are sustainable and effective in other locations.
Comparison of perineal outcomes in Chinese women adopting lateral positions and lithotomy positions during the passive and active phases of the second stage of labour: An observational study (Huang et al., 2022)	Compare the effects of adopting lateral and lithotomy positions during the passive and active phases of the second stage of labor on perineal outcomes in Chinese women.	Observational study with prospective data collection in three Chinese hospitals, with increasing encouragement to use the lateral position during childbirth. The decision on the position was made jointly by the woman and the midwife.	The main strategy analyzed was the adoption of the lateral position during the passive and/or active phases of the second stage of labor, promoted by midwives.	The study concludes that, in primiparous women, adopting the lateral position during the active phase of the second stage of labor is associated with better perineal outcomes, such as a higher rate of intact perineum or minor lacerations and a lower need for episiotomy. The lateral position in both stages (passive and active) proved beneficial, while its adoption only in the passive stage showed no advantages over the lithotomy position. In multiparous women, no significant differences were observed between positions. The results reinforce the protective potential of the lateral position in primiparous women and its value as a reference for clinical practice.
The effect of two midwives during the second stage of labour to reduce severe perineal trauma (Oneplus): a multicentre, randomised controlled trial in Sweden (Edqvist et al., 2022)	To assess whether the presence of two midwives during the second stage of labor reduces the incidence of severe perineal trauma, compared to the presence of only one midwife.	Randomized, multicenter, controlled clinical trial. University hospitals and a regional hospital in Sweden, where models for preventing perineal trauma were already in place. Midwives are the primary providers of care during childbirth.	Presence of two midwives during the active phase of the second stage of labor. Application of warm compresses, perineal massage with oil or lubricant, manual protection of the perineum (C-grip* perineal protection; Finnish manual perineal protection; Ritgen maneuver and only one hand on the fetus's head) *One hand holds the fetus's head in a C shape and the other holds the fetus's head	The presence of a second midwife focused on preventing perineal trauma proved effective in reducing serious injuries in primiparas, reinforcing the importance of collaborative work between professionals and can be applied in other contexts where joint care during childbirth exists.
The effect of warm compresses on perineal tear and pain intensity during the second stage of labor: A randomized controlled trial (Modoor et al., 2021)	To determine the effect of applying warm compresses on the occurrence of perineal tears and the intensity of pain during the second stage of labor.	Randomized clinical trial with a post-test design. Labor and delivery unit of an accredited tertiary hospital affiliated with the Saudi Arabian Ministry of National Guard Health Affairs.	Application of warm sterile compresses (gauze soaked in water at 45–59°C) placed on the perineum during the second stage of labor until the crowning phase. This intervention was performed by obstetric nursing professionals as part of standard care.	The study showed that the application of warm compresses during the second stage of labor reduced perineal pain, the occurrence of 2nd and 3rd degree lacerations, and the need for episiotomy, promoting a higher rate of intact perineum. Its integration into clinical practice is recommended, with adequate training for professionals.
The Effect of Perineal Warm Application on Perineal Pain, Perineal Integrity, and Postpartum Comfort in the Second Stage of Labor: Randomized Clinical Trial (Türkmen et al., 2020)	To determine the effect of perineal heat application on perineal pain, perineal integrity, and postpartum comfort in the second stage of labor.	Randomized clinical trial. Delivery room of a public university hospital in Turkey.	Application of warm, moist compresses to the perineum during the expulsive stage. The technique was performed by midwives and involved sterile compresses soaked in water at 45–50 °C, applied continuously for 10 minutes after testing the woman's tolerance to the temperature on her inner thigh.	The application of warm compresses to the perineum has been shown to be effective in reducing pain, preserving perineal integrity, and increasing postpartum comfort, and is recommended as a safe and evidence-based practice. The authors suggest further studies on its effects.
Could a simple manual technique performed by a midwife reduce the incidence of episiotomy and perineal lacerations? A non-randomized pilot study (Kathryn et al., 2024)	Compare the perineal condition of women who received perineal myofascial release performed by nurse midwives during labor with a control group who received standard care.	Non-randomized pilot study. Delivery unit of a tertiary public hospital in New South Wales, Australia. The intervention was performed exclusively during the crowning phase (when the fetal head is visible), with women in semi-reclining, supine, lithotomy, or lateral positions.	Application of the perineal myofascial release technique on point CV1 (located in the center of the perineum), with continuous digital pressure while the nurse's other hand applied counterpressure to the fetal head. This technique was integrated into a hands-on approach, combined with warm compresses, aiming to relax the myofascial structures of the perineum and avoid episiotomy.	The study suggests that perineal myofascial release may significantly reduce the need for episiotomy and increase the incidence of intact perineums. Randomized clinical trials with larger samples and inclusion of neonatal and maternal satisfaction data are recommended.

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Article title	Objective of the Study	Methodology/Context	Strategies used by the Obstetric Nurse	Conclusions/Recommendations suggested by the study
Does combining warm perineal compresses with perineal massage during the second stage of labor reduce perineal trauma? A randomized controle trial (Shqara et al., 2025)	To assess whether the combined application of warm perineal compresses and perineal massage during the second stage of labor reduces the occurrence of spontaneous perineal tears requiring suturing, compared to perineal massage alone.	Randomized clinical trial conducted at Galilee Medical Center, a tertiary hospital affiliated with Azrieli Faculty of Medicine (Bar Ilan University, Israel). Interventions were performed by trained midwives, according to a predefined protocol for action during the second stage of labor.	Perineal massage with almond oil during pushing efforts in both groups; Warm compresses applied between contractions (only in the experimental group); Hands-on technique during birth in both groups.	Similar results in both groups with regard to spontaneous perineal tears and episiotomies. Future studies should explore comparisons with groups without any perineal intervention, as well as maternal satisfaction with the techniques used.
Ritgen's maneuver in childbirth care: A case-control study in a Central Italian setting (Salusest et al., 2024)	To evaluate whether routine use of the Ritgen maneuver reduces the prevalence and severity of perineal tears compared to traditional manual perineal protection.	The prospective case-control study was conducted in the delivery unit of the Fondazione Policlinico Universitario Agostino Gemelli IRCCS in Rome, Italy. The absence of uniform national guidelines for the intrapartum period results in considerable heterogeneity in obstetric practices between Italian institutions and regions.	The Ritgen maneuver was performed by a single trained midwife during contractions, with upward pressure on the perineum and control of fetal head deflection. In the control group, a static manual protection technique was used on the posterior perineal area. No other strategies (such as maternal positions, compresses, or continuous support) were associated.	The study suggests that the Ritgen maneuver may reduce the incidence and severity of perineal tears, even in women with intrapartum risk factors such as epidural analgesia and oxytocin use. The authors recommend further studies that include additional variables (position, environment, type of expulsive effort) and evaluate long-term outcomes (perineal pain, urogynocological function in the postpartum period).
'Hands on', 'hands off' or 'hands poised'? Exploring intrapartum midwifery decision making through ethnographic research (Gillman et al., 2024)	Explore what midwives do to minimize the occurrence of perineal injuries during childbirth and understand the factors that influence their clinical decisions in this context.	An ethnographic study in a midwife-led birth center and hospital delivery unit without the implementation of the OASI bundle at the time of the study, which allowed for the observation of practices with greater autonomy and diversity of decision-making styles.	The strategies identified in the article are: manual support of the perineum with one or both hands ("hands on"), close observation with hands poised to intervene ("hands poised"), and no direct contact with the perineum ("hands off").	The study concludes that midwives' decisions about techniques to protect the perineum are complex, influenced by ambiguous language, contradictory knowledge, and varied clinical contexts. It is recommended that this topic be integrated into curricula and continuing education to improve evidence-based practice and clinical outcomes for women in labor.
A influência da posição materna no período expulsivo e o resultado a nível perineal: revisão Scoping (Cordeiro et al., 2025)	Map the scientific evidence on the position of the parturient during the expulsive stage and the results produced at the perineal level.	A Scoping Review. Second stage of labor (expulsive period), focusing on maternal positions adopted and their impact on perineal integrity. .	The article refers to strategies such as adopting vertical positions during the expulsive stage, respecting the woman's choice of position, and training professionals to support different positions.	The study concludes that upright positions during the expulsive stage are associated with a higher probability of an intact perineum and a lower need for episiotomy. However, when perineal injury occurs, it tends to manifest more frequently in the form of spontaneous 1st and 2nd degree lacerations, compared to horizontal positions. It is recommended that professionals support the woman's choice of position, adapting to her needs, and that further research on the subject be promoted.
Which elements were significant in reducing obstetric anal sphincter injury? A prospective follow-up study (Rasmussen et al., 2021)	To analyze which elements of an obstetric care bundle were significantly protective in preventing obstetric anal sphincter injuries (OASIs) in vaginal deliveries, evaluating them individually and in combination.	A prospective follow-up study. Herning Hospital, Denmark, with approximately 3,200 births per year. The care bundle was implemented in 2013 as part of a continuous quality improvement project. It included training and certification of professionals (midwives and doctors) with practical training and supervision.	The obstetric nurse applied a set of five strategies to promote perineal integrity, notably placing a hand on the fetal head and manually supporting the perineum, associated with a reduction in injuries. The others included visualization of the perineum, communication with the parturient, and certification of professionals.	The application of fetal head hand techniques and perineal support, integrated into the care bundle, has been shown to significantly reduce the risk of anal sphincter injury. The presence of the five elements of the bundle (communication, visualization of the perineum, hand on the head, perineal support, and certification) was associated with better perineal outcomes. Its implementation is recommended whenever possible, respecting the individuality of the woman and the clinical context, as well as the continuous training and certification of midwives. The importance of systematic recording of interventions and the need for future research on the moment of fetal head extension as a possible protective factor are also highlighted.

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Article title	Objective of the Study	Methodology/Context	Strategies used by the Obstetric Nurse	Conclusions/Recommendations suggested by the study
Effects of Perineal Warm Compresses during the Second Stage of Labor on Reducing Perineal Trauma and Relieving Postpartum Perineal Pain in Primiparous Women: A Systematic Review and Meta-Analyses. (Sun et al., 2024)	To evaluate the effects of applying warm perineal compresses during the second stage of labor on reducing perineal trauma and relieving postpartum perineal pain in primiparous women.	Systematic review and meta-analysis of randomized clinical trials. Studies conducted in six countries between 2007 and 2021. Care was provided by midwives in two studies and by researchers (with training in nursing or obstetrics) in five studies.	Application of warm compresses to the perineum during the second stage of labor. Application began with perineal distension or during contractions, with a controlled temperature between 38–50 °C, and was maintained until crowning or birth.	Warm compresses are effective in reducing perineal tears and episiotomies, as well as relieving pain in the first few days after delivery. Their use is recommended, especially in primiparas, with attention to temperature and the woman's comfort, and further studies on their subjective perception are needed.
Midwives' approach to the prevention and repair of obstetric perineal trauma in Spain (Laderas Díaz et al., 2024)	To evaluate the professional practices of Spanish midwives in the prevention and repair of perineal trauma, as well as to identify professional factors associated with the restrictive use of episiotomy (<10%).	A cross-sectional observational study conducted in Spain, covering midwives working in different settings (public and private centers, primary care, and home births), focusing on clinical practice in the second stage of labor.	Midwives reported frequently using warm compresses and active manual protection of the perineum, combined with guidance for slow and controlled crowning, as strategies to preserve perineal integrity. The use of lubricants was mentioned by about half, while intrapartum perineal massage was rarely mentioned. A restrictive practice of episiotomy was also observed, in accordance with international recommendations.	The study concludes that there is considerable variability in midwives' practices regarding the prevention and repair of perineal trauma, with episiotomy being more restrictive among midwives who have recently completed their training or who work in teaching contexts and home births. Further training and consistent adoption of evidence-based practices are recommended.
A pre-post implementation study of a care bundle to reduce perineal trauma in unassisted births conducted by midwives (Lee et al., 2024)	To evaluate the impact of implementing a perineal protection bundle on the occurrence of perineal trauma in unassisted deliveries performed by midwives.	Retrospective before-and-after comparison study of implementation at a tertiary hospital in Brisbane, Australia, which introduced the WHA (Women's Healthcare Australasia) bundle in 2018.	The midwives applied the five interventions of the WHA bundle, which are: Application of warm compresses during the expulsive stage; Continuous manual support to the perineum and fetal head ("hands-on"); Performing a 60° mid-lateral episiotomy, when indicated; Systematic genito-anal assessment after delivery; Review of perineal injury by two professionals for proper classification.	The implementation of the bundle did not reduce severe lacerations and was associated with a higher rate of episiotomy in nulliparous women and second-degree lacerations in multiparous women. The study warns of the possible risks of adopting it without robust evidence and recommends clinical trials before widespread implementation.
The effects of hands on and hands off/poised techniques on maternal outcomes: A systematic review and meta-analysis (Huang et al., 2020)	To evaluate the effects of hands-on and hands-off/poised techniques on maternal outcomes during the second stage of labor.	Systematic review and meta-analysis of quantitative studies. Birth attendance by midwives and obstetric nurses in several countries, including China, Iran, the United Kingdom, Australia, and Norway.	- Hands-on technique: continuous manual support to the perineum with the dominant hand and control of fetal head flexion with the other hand during contractions and the crowning phase. - Hands-off/poised technique: no direct touch on the perineum; may include only slight control of the speed of fetal head expulsion with minimal pressure. There is no direct support to the perineum or active manipulation of head flexion. The professional observes and intervenes only if necessary, respecting the physiology of childbirth.	The use of the "hands off/poised" technique may be promising in promoting perineal integrity, as it is associated with a lower rate of episiotomy, a higher probability of intact perineum, and less postpartum perineal pain. Although there is an increase in first-degree lacerations, there is no evidence of an increased risk of severe perineal trauma, postpartum hemorrhage, or prolongation of the second stage. Further large-scale randomized clinical trials are suggested to strengthen recommendations regarding this technique.
Effectiveness of Perineal Massage in the Second Stage of Labor in Preventing Perineal Trauma (Oglak & Obut, 2020)	To investigate the effect of perineal massage performed during the second stage of labor on the prevention of perineal trauma in nulliparous women.	Observational study at a teaching hospital in Turkey (Diyarbakir Gazi Yasargil Training and Research Hospital) between January 2017 and May 2019.	The midwives performed perineal massage with liquid petroleum jelly during the second stage of labor, using U-shaped movements (from 3 to 9 o'clock), throughout the contractions and until the fetal head was born. The technique was interrupted if the woman felt discomfort and resumed with her consent.	Perineal massage during the second stage reduced the duration of labor, increased the rate of intact perineums, and decreased episiotomies without causing severe lacerations. It proved to be safe and effective and is recommended as a routine practice, especially in nulliparous women.

The synthesis of the data allowed the strategies used by obstetric nurses to be grouped into seven thematic categories, identified based on the frequency with which they were described in the literature and their clinical relevance for promoting perineal integrity in the context of labor, more specifically in the second stage of labor.

The application of warm compresses was one of the most frequently mentioned strategies, appearing in fifteen studies (Akın et al., 2020; Edqvist et al., 2022; Gillman et al., 2024; Laderas Díaz et al., 2024; Lee et al., 2024; Martínez et al., 2021; Modoor et al., 2021; Rodrigues et al., 2023; Rodrigues et al., 2024; Rodrigues et al., 2025; Shqara et al., 2025; Sun et al., 2024; Taylor & Stulz, 2024; Türkmen et al., 2020; Zang et al., 2022). In the study by Akın et al. (2020), although some midwives stated that they used hot compresses as a perineal protection strategy, direct observation of births showed that this technique was used much less frequently in practice than reported by the professionals. Three of the fourteen studies describe the simultaneous application of compresses and perineal massage, suggesting a complementary effect in reducing the need for episiotomy and preserving the perineum (Rodrigues et al., 2023, 2025; Shqara et al., 2024).

Manual perineal protection techniques were also widely reported, being mentioned in fifteen studies. Approaches included hands-on, hands-off, hands-poised techniques, the Ritgen maneuver, manual perineal support, perineal myofascial release, and deceleration of fetal

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head delivery (Akın et al., 2020; Blomgren et al., 2025; Edqvist et al., 2022; Gillman et al., 2024; Huang et al., 2020; Laderas Díaz et al., 2024; Lee et al., 2024; Martínez et al., 2021; Rasmussen et al., 2021; Rodrigues et al., 2023, 2024; Salusest et al., 2024; Shqara et al., 2025; Taylor & Stulz, 2024; Zang et al., 2022).

The promotion of dynamic maternal positions, respect for the choice of birthing position, and encouragement of spontaneous pushing efforts were identified in eight studies (Akın et al., 2020; Blomgren et al., 2025; Cordeiro et al., 2025; Huang et al., 2022; Martínez et al., 2021; Rodrigues et al., 2024, 2025; Zang et al., 2022). These studies emphasized the adoption of physiological positions, such as lateral, squatting, or on all fours, as well as freedom of movement and active participation by the woman. The study by Cordeiro et al. (2025) highlights the role of the obstetric nurse in guiding the parturient and promoting positions that favor perineal integrity, while Blomgren et al. (2025) refer to the association of these practices with improved maternal and neonatal outcomes.

Perineal massage was mentioned in six studies (Edqvist et al., 2022; Laderas Díaz et al., 2024; Oglak & Obut, 2020; Rodrigues et al., 2025; Shqara et al., 2025; Zang et al., 2022). The technique was generally applied during the second stage of labor, continuously until crowning, either alone or in combination with other interventions, such as warm compresses. In some contexts, it was performed with lubricating oil, namely sweet almond oil (Shqara et al., 2025). Studies describe its performance by trained midwives, integrating it into institutional clinical practices or as part of personalized implementation strategies (Rodrigues et al., 2025).

The application of lubricants as an isolated measure appeared in only three studies (Akın et al., 2020; Martínez et al., 2021; Zang et al., 2022), where it is used directly on the perineum during the expulsive stage to facilitate tissue elasticity. Despite this, none of these studies presents conclusive evidence of its isolated benefit in preventing perineal trauma. In the study by Akın et al. (2020), although professionals reported using lubricating gel for this purpose, a discrepancy was observed between the declared practice and the actual practice, with less actual use than reported.

Two studies (Lee et al., 2024; Rasmussen et al., 2021) addressed the implementation of care bundles, consisting of sets of interventions applied in a coordinated and systematic manner. The bundles identified in the included studies had different compositions. The variability between studies shows that there is no single bundle configuration, with components adapted according to the context and objectives of each investigation.

A study by Edqvist et al. (2022) addressed the simultaneous presence of two midwives during the second stage of labor as a strategy to prevent perineal trauma. This randomized clinical trial, conducted in five obstetric units in Sweden, demonstrated a significant reduction in the incidence of anal sphincter injuries in women assisted by two midwives, compared to usual care with only one midwife.

Based on the analysis of the studies included in this SR, it was possible to identify the main strategies adopted by obstetric nurses in the context of labor, more specifically in the second stage of labor, with the aim of preserving perineal integrity, as well as the respective results, as summarized in Table 6.

Table 6– Table presenting results.

Strategy	Authors	Study number	Key findings observed
Warm compresses	Akın et al., 2020; Edqvist et al., 2022; Gillman et al., 2024; Laderas Díaz et al., 2024; Lee et al., 2024; Martínez et al., 2021; Modoor et al., 2021; Rodrigues et al., 2023; Rodrigues et al., 2024; Rodrigues et al., 2025; Shqara et al., 2025; Sun et al., 2024; Taylor & Stulz, 2024; Türkmen et al., 2020; Zang et al., 2022	15*	Pain reduction, maternal comfort, decreased incidence of lacerations; possible synergistic effect when combined with perineal massage
Manual techniques for perineal protection	Akın et al., 2020; Blomgren et al., 2025; Edqvist et al., 2022; Gillman et al., 2024; Huang et al., 2020; Laderas Díaz et al., 2024; Lee et al., 2024; Martínez et al., 2021; Rasmussen et al., 2021; Rodrigues et al., 2023, 2024; Salusest et al., 2024; Shqara et al., 2025; Taylor & Stulz, 2024; Zang et al., 2022	15	Hands-on – most commonly used and associated with a lower incidence of severe anal sphincter injuries. Hands-off – Values the physiology of childbirth; no clear evidence of benefit in reducing perineal trauma. Hands-poised – Little studied; clinical impact still uncertain; further research needed. Ritgen maneuver – Potential for reducing lacerations; effectiveness depends on the midwife's training and experience. Myofascial release – Significant reduction in the risk of episiotomy and perineal lacerations; associated with a higher probability of an intact perineum.
Physiological positions, freedom of movement, and spontaneous expulsion efforts	Akın et al., 2020; Blomgren et al., 2025; Cordeiro et al., 2025; Huang et al., 2022; Martínez et al., 2021; Rodrigues et al., 2024, 2025; Zang et al., 2022	8	Greater autonomy for women, less use of episiotomy, promotion of physiology, and possible reduction in lacerations
Perineal massage	Edqvist et al., 2022; Laderas Díaz et al., 2024; Oglak & Obut, 2020; Rodrigues et al., 2025; Shqara et al., 2025; Zang et al., 2022	6*	Muscle relaxation, increased blood flow, reduction of perineal trauma, especially when combined with compresses
Vaginal lubricants (isolated)	Martínez et al., 2021; Zang et al., 2022	2	Reduced friction and possible benefit in tissue elasticity, but limited evidence as a standalone strategy
Care bundles	Akın et al., 2020; Lee et al., 2024; Rasmussen et al., 2021	3	Reduction of obstetric anal sphincter injury; standardization of practices; composition of bundles varies between studies
Presence of two midwives	Edqvist et al., 2022	1	Significant reduction in anal sphincter injuries compared to care provided by a single midwife

*Note: In three of the studies, perineal massage was applied in conjunction with warm compresses.

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3. DISCUSSION

This SR allowed us to identify and map a diverse set of strategies adopted by obstetric nurses to promote perineal integrity in the context of labor. The diversity of interventions found highlights the complexity of perineal care and reveals different forms of action, influenced by clinical contexts, organizational culture, and professional training. The practices mapped reflect woman-centered care, in line with WHO recommendations (2018), favoring approaches that respect physiology, are based on scientific evidence, and are guided by the autonomy and protagonism of the parturient.

3.1 Warm compresses

The application of warm compresses stood out as one of the most frequently mentioned strategies due to its simplicity, low cost, and benefits in both clinical outcomes and the woman's experience. This technique consists of applying sterile compresses soaked in hot water between contractions and during the crowning phase, with reported temperatures between 40°C and 59°C (Türkmen et al., 2020; Shqara et al., 2025). Türkmen et al. (2020) recommend maintaining a temperature between 40°C and 45°C for 6 to 8 minutes, allowing for a more effective therapeutic effect. Evidence links this practice to reduced perineal pain, greater postpartum comfort, an increase in the rate of intact perineums, and a decrease in lacerations and episiotomies (Modoor et al., 2021; Rodrigues et al., 2023; Sun et al., 2024). However, its effectiveness depends on the timing of application, the temperature used, and the training of professionals. Additionally, its application is often combined with other techniques, which makes it difficult to evaluate its effectiveness in isolation.

3.2. Manual techniques for perineal protection

Among manual perineal protection techniques, the hands-on approach, which includes active support of the perineum and control of the fetal head's exit, remains the most frequently used and referenced in the literature (Rodrigues et al., 2023; Rasmussen et al., 2021; Gillman et al., 2024), and is associated with a lower incidence of severe anal sphincter injuries. The Ritgen maneuver, analyzed by Salusest et al. (2024), showed potential for reducing lacerations, although the authors warn of the need for adequate training and careful application, since its benefits seem to depend both on the timing of the intervention and the experience of the midwife performing it.

More recently, the perineal myofascial release technique has emerged as a promising intervention in the field of perineal protection. Applied during crowning, in conjunction with the application of hot compresses, this technique consists of continuous digital pressure on the CV1 point (located in the center of the perineum) combined with counterforce from the fetal head, performed by trained midwives. According to Taylor and Stulz (2024), this approach has been shown to be effective in reducing the incidence of episiotomy and increasing the rate of intact perineum, without negatively impacting the duration of the expulsive stage or the type of delivery. Although the results are preliminary, they suggest both biomechanical and physiological benefits, reinforcing the need for further research and training for its safe and effective application.

In turn, the hands-off technique, which favors non-manual interference, is valued by some professionals for respecting the physiology of childbirth. However, the available data do not clearly demonstrate a consistent association between this approach and a reduction in perineal trauma (Zang et al., 2022).

The hands-poised technique, which involves attentive monitoring without touching until the critical moment of deflection, remains understudied, and further research is needed to understand its impact on clinical practice. Studies such as that by Gillman et al. (2024) point to the ambiguous and inconsistent use of these terminologies, influenced by institutional factors, the midwife's experience, and the relationship with the woman, hindering the standardization and integration of these practices into evidence-based protocols. This context reinforces the need for continuous training, clinical supervision, and terminological clarification.

3.3. Promotion of adopting physiological positions

The importance of physiological positions and freedom of movement was common to several studies included in this review, reflecting a gradual change in childbirth care practices, with a focus on the active participation of women and the promotion of natural mechanisms of perineal protection (Cordeiro et al., 2025; Huang et al., 2022). This approach is in line with the recommendations of the WHO (2018), which advocates for women's protagonism in childbirth and recommends that professionals respect their physiological rhythms, preferences, and autonomy.

Evidence suggests that, in primiparous women, adopting the lateral position, especially during the active phase of the second stage of labor, is associated with a higher rate of intact perineum or minor lacerations and a lower incidence of episiotomy when compared to the lithotomy position (Huang et al., 2022). However, adopting the lateral position only in the passive phase did not show significant benefits, which reinforces the importance of adjusting the position at the time of delivery. Additionally, Blomgren et al. (2025) demonstrate that when women are free to choose their position and receive continuous support and adequate perineal protection, better clinical outcomes and greater satisfaction with the birth experience are observed.

Although the data support the use of alternative positions as a perineal protection strategy, some controversy remains regarding their specific effects, which requires professionals to take an individualized approach based on active listening, respect for women's autonomy, and tailoring interventions to their needs and preferences (Cordeiro et al., 2025; Huang et al., 2022; Blomgren

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et al., 2025). This complexity is also observed in the study by Akın et al. (2020), where, despite midwives recognizing the benefits of alternative positions for maternal comfort and potential protection of the perineum, actual practice showed a marked predominance of the lithotomy position during the expulsive stage. This discrepancy between reported knowledge and observed practice shows that the adoption of physiological positions continues to be conditioned by institutional factors and established routines in services, limiting the full application of evidence-based recommendations.

3.4. Intrapartum perineal massage

Perineal massage has been gaining prominence as an effective technique for preventing perineal trauma during the second stage of labor. This practice promotes muscle relaxation, increases blood perfusion and tissue elasticity, reducing resistance to distension (Oglack & Obut, 2020). In the study cited, massage was associated with a higher rate of intact perineum, less need for episiotomy, and shorter duration of the expulsive period, despite an increase in minor lacerations that did not require suturing.

According to a study by Laderas Díaz et al. (2024) evaluating the practices adopted by midwives in Spain to prevent and repair obstetric perineal trauma, intrapartum perineal massage was mentioned as one of the techniques evaluated. This study concluded that perineal massage was not a common practice among the midwives surveyed, noting that although some guidelines such as the WHO (2018) recommend perineal massage, clinical guidelines such as the National Institute for Health and Care Excellence (2014) discourage its use during childbirth, which according to Zang et al. (2022), hinders appropriate decision-making in the implementation of different perineal preventive techniques.

3.5. Use of lubricants

In the study by Martínez et al. (2021), lubricants are referred to as one of the measures used by midwives during the expulsive stage, in combination with warm compresses, control of fetal head flexion, and adoption of postures according to the woman's wishes, integrating into an expectant approach focused on perineal protection. In the review study by Zang et al. (2022), the use of lubricating gel is described among the techniques evaluated for the prevention of lacerations, being applied during the expulsive stage; however, the available evidence is considered to be of critically low quality and the results inconclusive.

The scarcity of studies with high methodological quality that isolate this intervention prevents the formulation of solid recommendations regarding its isolated effectiveness, highlighting the need for further research on its specific impact on perineal integrity.

Nevertheless, the use of lubricants is often associated with perineal massage, facilitating its glide and increasing the woman's comfort (Edqvist et al., 2022; Rodrigues et al., 2023, 2025; Shqara et al., 2025). Consistent with this trend, the study by Akın et al. (2020) also describes the application of lubricating gel by midwives as one of the strategies used to “soften” the perineum during the expulsive phase. Although this practice was reported by several professionals as part of their perineal protection routines, direct observation revealed that its actual use was less frequent than reported, highlighting a discrepancy between stated knowledge and actual practice.

3.6. Care bundles

The implementation of care bundles has been proposed as a strategy to reduce severe perineal tears, but the results are mixed. In the study by Rasmussen et al. (2021), the application of a bundle focused on clinical practices and training, which included communication with the woman, visualization of the perineum, hand on the fetal head, perineal support, and certification of professionals, demonstrated a significant reduction in the rate of obstetric anal sphincter injury, especially in nulliparous women, when all elements were applied in combination.

Lee et al. (2024) evaluated a bundle with a distinct composition, the WHA bundle, which included warm compresses, manual support, standardized episiotomy, genito-anal examination, and double review of lacerations. Although it shared some components, this model proved to be more technical and protocol-based, without integrating elements such as structured communication or certified training. The results did not show a significant reduction in obstetric anal sphincter injuries and pointed to an increase in episiotomies in nulliparous women and second-degree lacerations in multiparous women.

These findings show that the effectiveness of bundles cannot be analyzed in a generalized manner, since their composition is not homogeneous. The choice of elements, the form of implementation, and the clinical context are decisive in the results, reinforcing the importance of individualized approaches that are evidence-based and respectful of women's autonomy.

3.7. Presence of two midwives

An innovative strategy identified in this review is the presence of two midwives during the expulsive stage, associated with a reduction in severe perineal injuries, mainly in primiparas, and an increase in women's perception of safety (Edqvist et al., 2022). However, its implementation in a national context faces organizational obstacles. As reported by Rodrigues et al. (2024) in Portugal, the ratios of professionals per parturient do not always guarantee continuous and exclusive monitoring, contrary to the recommendations of the Board of the College of Maternal and Obstetric Health Specialists, which advocate a ratio of 1:1 during

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the second stage of labor, and the WHO guidelines that advocate continuous care provided by a single midwife (WHO, 2018; OE, 2017).

Across the board, the data analyzed show that the work of obstetric nurses in promoting perineal integrity requires not only technical knowledge, but also a sensitive, humanized approach tailored to the individual needs of each woman. The integration of these practices depends on the commitment of health institutions to the quality and safety of childbirth, the continuous training of professionals, and the creation of conditions that favor woman-centered care.

Despite growing interest in practices that promote perineal integrity, some strategies remain underexplored from a scientific point of view. The application of lubricants, for example, is mentioned occasionally and rarely analyzed as a standalone intervention. Although their use is common in techniques such as perineal massage, with the aim of facilitating sliding and reducing friction, the isolated effects of this practice on perineal outcomes remain unclear. On the other hand, more integrated approaches, such as care bundles, have shown potential in preventing obstetric trauma, but still need to be validated in different contexts, especially those where there are still limitations in terms of continuing education and team organization. In this scenario, it is essential to invest in research that deepens not only the effectiveness but also the feasibility and adaptation of these strategies to the concrete reality of services.

4. GAPS IN THE LITERATURE

Despite the diversity of strategies identified in this SR, some relevant gaps remain in the literature. The use of lubricants, for example, is rarely studied as an isolated intervention, making it difficult to understand their specific impact on perineal integrity. Manual protection techniques also present inconsistent terminology (hands-on, hands-off, hands-poised), which compromises the standardization of practices and comparison between studies.

Care bundles, although promising, lack validation in different clinical contexts due to their variable composition and the scarcity of robust controlled trials. The presence of two midwives during the expulsive stage has shown positive results, but remains understudied and difficult to apply in the national context due to organizational limitations.

Nevertheless, it is important to recognize some methodological limitations that may influence the results and generalization of the findings. The exclusion of articles in other languages may restrict the geographical and cultural diversity of the evidence considered, especially in countries with relevant practices in this area. The decision to include only open-access articles with full text available may introduce publication bias, excluding potentially relevant studies that do not meet these criteria. The heterogeneous terminology used to designate professionals (e.g., midwife, nurse-midwife, obstetric nurse) represents another challenge, making it difficult to accurately categorize the data. Furthermore, as an SR, this review does not include a critical assessment of the methodological quality of the included studies, which limits the direct extrapolation of the results to clinical practice.

The decision to restrict the analysis to the second stage of labor, although justified by the specific objective of the review, may exclude relevant strategies applied in other stages of the delivery process. Finally, the methodological diversity of the selected studies, with different designs, samples, and care contexts, makes it difficult to directly compare results and formulate uniform recommendations.

Despite these limitations, it is believed that this review could make a significant contribution to understanding the practices adopted by obstetric nurses in promoting perineal integrity. The results obtained not only identify gaps in knowledge but also support the development of future research, with a view to continuously improving the quality of care provided to women during childbirth.

CONCLUSION

This SR allowed us to map and synthesize a broad set of strategies used by obstetric nurses to promote perineal integrity in the context of labor. The interventions identified reflect a woman-centered practice, supported by scientific evidence and guided by the principles of humanization of care, the physiology of childbirth, and respect for the autonomy of the parturient.

Among the most frequently mentioned strategies are the application of warm compresses, perineal massage, manual techniques to protect the perineum, and the adoption of physiological positions. These practices have been shown to reduce perineal trauma and improve the childbirth experience, although their effectiveness depends on factors such as the training of professionals, the timing of their application, and the organizational context in which they are implemented.

Although significant progress has been made in the adoption of preventive and humanized care, important gaps remain in scientific research, particularly with regard to the isolated evaluation of certain interventions and the lack of standardization in procedures.

This reinforces the importance of investing in the continuous training of professionals, in the development of protocols tailored to the reality of services, and in research that delves not only into the clinical effectiveness of interventions, but also their applicability and acceptance by women. Promoting perineal integrity involves more than just applying techniques; it means ensuring qualified, respectful care that is tailored to the uniqueness of each birth.

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AUTHORS´ CONTRIBUTION

Conceptualization, I.R. and M.O.Z.; data curation, I.R. and M.O.Z.; formal analysis, I.R. and M.O.Z.; investigation, I.R. and M.O.Z.; methodology, I.R. and M.O.Z.; project administration, I.R. and M.O.Z.; resources, I.R. and M.O.Z.; software, I.R. and M.O.Z.; supervision, M.O.Z.; validation, I.R. and M.O.Z.; writing – original draft, I.R.; writing – review & editing, M.O.Z.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.

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