Science Discovery Medicine
2026, Vol. 1, No. 4, pp. 132–141
https://doi.org/10.11648/j.sdmed.20260104.11

Research Article

Topical Honey for Perineal Wound Healing After Vaginal Birth: An Updated Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Abstract

Background: Perineal trauma complicates the majority of vaginal births and is a leading source of postpartum pain, infection, and dehiscence. Medical-grade honey (MGH) may aid wound repair through antimicrobial and pro-healing actions. A 2024 meta-analysis of obstetric wounds (Barbosa et al.) found honey did not significantly improve final healing but reduced pain and oral analgesic use; however, it pooled predominantly caesarean wounds and compared honey only with placebo. The perineal-specific picture, and honey versus antiseptics, remains unclear. Objective: To determine the effect of topical honey on (1) perineal wound healing measured strictly by REEDA scores, (2) pain intensity and oral non-steroidal anti-inflammatory drug (NSAID) analgesic use, and (3) whether clinical effects differ by comparator type (antiseptic vs placebo vs routine care). Methods: PubMed, Embase, CINAHL, Cochrane CENTRAL, Scopus, Web of Science, and Google Scholar were searched from inception to September 2026 for randomized controlled trials (RCTs) evaluating topical honey in episiotomy or spontaneous first- and second-degree perineal tears after vaginal birth. Outcomes were reported separately: objective wound healing (REEDA score), pain intensity (VAS/NRS), oral analgesic use (mg ibuprofen), infection, and dehiscence. Random-effects meta-analysis (τ^2 REML; Hartung-Knapp) was conducted, and GRADE certainty was applied per outcome. Results: Ten studies (723 women; 6 RCTs — 3 double-blind — 1 quasi-experimental, 3 observational) were included. Objective wound healing (REEDA) improved in 8 of 9 studies reporting it; however, the only poolable comparison — honey versus placebo across double-blind RCTs (2 RCTs, n=230) — gave mean difference (MD) −1.19 (95% CI −3.31 to 0.93; I^2=98%, p=0.27), i.e., no statistically significant pooled benefit, closely reproducing Barbosa's null (MD −0.34). Against an active antiseptic (povidone-iodine), honey produced a large, significant healing advantage (day 5 MD −1.13; p<0.001). Subjective pain intensity scores (VAS/NRS) showed no statistically significant pooled benefit (Gerosa, Nikpour, and Lavaf all null). However, total oral analgesic consumption was significantly lower with honey in one high-quality RCT (day 4 ibuprofen MD −274.1 mg; p=0.049). Conclusion: Topical honey improves objective perineal wound healing relative to povidone-iodine in a small trial and reduces oral NSAID requirements, but shows no significant healing benefit versus placebo and no consistent reduction in subjective pain intensity scores; overall certainty of evidence is very low. Adequately powered, double-blind trials using standardized MGH and active antiseptic comparators are needed.

Keywords

Episiotomy, Perineal Tear, Honey, REEDA Score, Wound Healing, Postpartum Pain, GRADE, Meta-analysis

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Received: 13 October 2026; **Accepted:** 28 October 2026; **Published:** 27 November 2026

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1. Introduction

Perineal trauma — including mediolateral/median episiotomy and spontaneous first- and second-degree lacerations — affects at least 85% of women giving birth vaginally and represents a major source of early postpartum pain, tissue edema, wound dehiscence, and surgical site infection [1-3]. Third- and fourth-degree obstetric anal sphincter injuries (OASIS) involve the anal sphincter complex and require specialized surgical repair and antibiotic management [1, 4]. Postpartum perineal morbidity can impair maternal mobility, voiding, neonatal care, breastfeeding initiation, and maternal psychological well-being [4-6].

Topical medical-grade honey (MGH) possesses broad-spectrum antimicrobial properties (attributed to high osmolarity, acidic pH 3.2-5.5, enzymatic hydrogen peroxide production, and phytochemicals such as methylglyoxal) as well as pro-healing actions (maintaining a moist wound environment, promoting autolytic debridement, stimulating angiogenesis, and suppressing local tissue inflammation) [7-10]. Unlike synthetic antibiotics, topical honey has not been associated with bacterial resistance [8, 9].

Previous meta-analyses have evaluated honey in obstetric care. Barbosa et al. (2024) pooled five randomized controlled trials (RCTs; 353 women) of obstetric wounds and reported that honey did not significantly improve overall wound healing (MD −0.34; 95% CI −1.13 to 0.44) but reduced pain scores and analgesic consumption [11]. However, Barbosa's analysis was dominated by abdominal caesarean section incisions and evaluated honey exclusively against placebo [11, 12]. Schaap et al. (2025) reviewed ten perineal studies narratively but performed no quantitative synthesis [14]. Crucially, three major clinical questions remain unanswered: (1) what is the isolated effect of topical honey on perineal wounds specifically? (2) how does honey perform against standard active antiseptics (e.g., povidone-iodine) used in clinical practice? and (3) does topical honey dissociate in its clinical effects on objective REEDA wound scores versus subjective pain intensity and oral analgesic consumption? This updated systematic review addresses these gaps with a comparator-stratified meta-analysis.

Key messages: Earlier reviews combined different obstetric wounds, while this review focuses on perineal trauma after vaginal birth. In the supplied study results, honey showed no statistically significant pooled REEDA benefit over placebo and no consistent reduction in pain scores; one trial reported lower ibuprofen use. These findings are based on very-low-certainty evidence and require confirmation in adequately powered trials.

2. Methods

2.1. Protocol and Registration

This systematic review and meta-analysis was conducted in accordance with PRISMA 2020 guidelines [13] and Cochrane Handbook standards [15]. The review protocol was prospectively registered on the Open Science Framework (OSF Registries https://doi.org/10.17605/OSF.IO/QHKX9)

2.2. Eligibility Criteria

Eligibility was structured strictly using PICOS criteria:

1) Population: Postpartum women with episiotomy (mediolateral or median) or spontaneous first- or second-degree perineal lacerations following vaginal birth. Studies focusing on third- or fourth-degree tears (OASIS) or abdominal caesarean wounds were excluded.
2) Intervention: Topical application of honey (pure natural honey, standardized medical-grade honey [MGH], or honey-based creams/ointments).
3) Comparators: Placebo (inert ointment/cream), active antiseptics (e.g., povidone-iodine, chlorhexidine), or routine standard perineal care (dry care/water washing).
4) Primary Outcomes: (1) Objective wound healing evaluated strictly using the REEDA score (Redness, Edema, Ecchymosis, Discharge, Approximation; 0-15 or 0-18 scale); (2) Subjective pain intensity measured on a Visual Analogue Scale (VAS, 0-10) or Numerical Rating Scale (NRS, 0-10).
5) Secondary Outcomes: Oral non-steroidal anti-inflammatory drug (NSAID) analgesic consumption (mg of ibuprofen/paracetamol), wound infection, wound dehiscence, application-site stinging/pruritus, and maternal satisfaction.
6) Study Design: Peer-reviewed RCTs (double-blind, single-blind, or open-label). Non-randomized comparative and observational studies were cataloged for qualitative completeness but excluded from primary pooling.

2.3. Information Sources and Search Strategy

Comprehensive literature searches were executed across PubMed/MEDLINE, Embase, CINAHL, Cochrane Central Register of Controlled Trials (CENTRAL), Scopus, Web of Science, and Google Scholar from inception through September 2026 without language restriction. Backward citation searching of included trials and prior systematic reviews was also performed. Complete PubMed search syntax is detailed in Appendix A.

2.4. Study Selection

Titles and abstracts identified from electronic searches were independently screened by two reviewers. Full-text articles of potentially eligible studies were retrieved and evaluated against pre-defined PICOS criteria. Disagreements were resolved through consensus.

2.5. Data Extraction

Data were extracted independently into a piloted, standardized extraction form. Extracted items included study metadata, country, design, sample size, baseline participant characteristics, tear degree/episiotomy type, honey formulation, dose and application frequency, comparator type, outcome assessment timepoints (days 1, 4, 5, 7, 10, 14), REEDA scores, pain scores, and oral analgesic doses. Median and interquartile ranges were converted to means and standard deviations using Cochrane Handbook methods [15].

2.6. Quality Assessment

Methodological risk of bias for randomized controlled trials was assessed using the Cochrane Risk of Bias 2.0 (RoB 2.0) tool across five core domains: randomization process, deviations from intended interventions, missing outcome data, measurement of the outcome, and selection of the reported result [16].

2.7. Outcome Measures

Objective wound healing was operationalized strictly as the mean REEDA score at baseline, day 5, and day 10 postpartum. Subjective pain was operationalized as mean VAS/NRS pain intensity at days 1, 4, 7, 10, and 14. Oral analgesic consumption was quantified as total mean daily dose of oral ibuprofen (mg) at day 4 postpartum.

Risk of bias evaluation (RoB 2.0):

Each RCT was assigned an overall risk of bias judgment of 'Low risk', 'Some concerns', or 'High risk' based on domain-level evaluations using RoB 2.0 guidelines [16].

2.8. Statistical Synthesis

Continuous outcome data (REEDA scores, VAS pain scores, oral ibuprofen dose) were synthesized using mean differences (MD) or standardized mean differences (SMD) with 95% confidence intervals (CIs). Meta-analysis was conducted using random-effects models (Restricted Maximum Likelihood [REML] with Hartung-Knapp adjustment) to account for expected clinical heterogeneity [15]. Between-study heterogeneity was quantified using the I^2 statistic, τ^2, and Cochran Q test. Statistical analyses were performed in R (meta package).

2.9. Subgroup Analysis

Pre-specified subgroup analyses were conducted based on comparator type: (1) active antiseptic (povidone-iodine), (2) placebo (inert ointment/cream), and (3) non-active routine standard care.

2.10. Certainty of Evidence Assessment

The overall certainty of evidence for each primary and secondary outcome was evaluated using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) framework across five domains: risk of bias, inconsistency, indirectness, imprecision, and publication bias [17].

Reporting bias evaluation:

Small-study effects and publication bias were evaluated visually using funnel plots where sufficient trial counts ($k \ge 10$) were available.

Sensitivity analyses:

Sensitivity analyses were conducted by: (1) re-running meta-analyses using fixed-effect inverse-variance models, and (2) restricting pooling strictly to double-blind placebo-controlled RCTs.

3. Results

3.1. Study Selection

Electronic database searching yielded 55 total records. After removing 26 duplicates, 29 titles and abstracts were screened. Seventeen records were excluded based on title/abstract relevance. Twelve full-text reports were sought, of which 2 were unavailable. Ten studies enrolling a total of 723 postpartum women met all eligibility criteria (Figure 1: PRISMA 2020 Flow Diagram). Of these 10 studies, 6 were randomized controlled trials (3 double-blind, 1 single-blind, 2 unblinded), 1 was a quasi-experimental posttest-only study, and 3 were non-randomized observational/one-group studies. Included trials were conducted in Iran (4), India (3), Indonesia (2), and Switzerland (1).

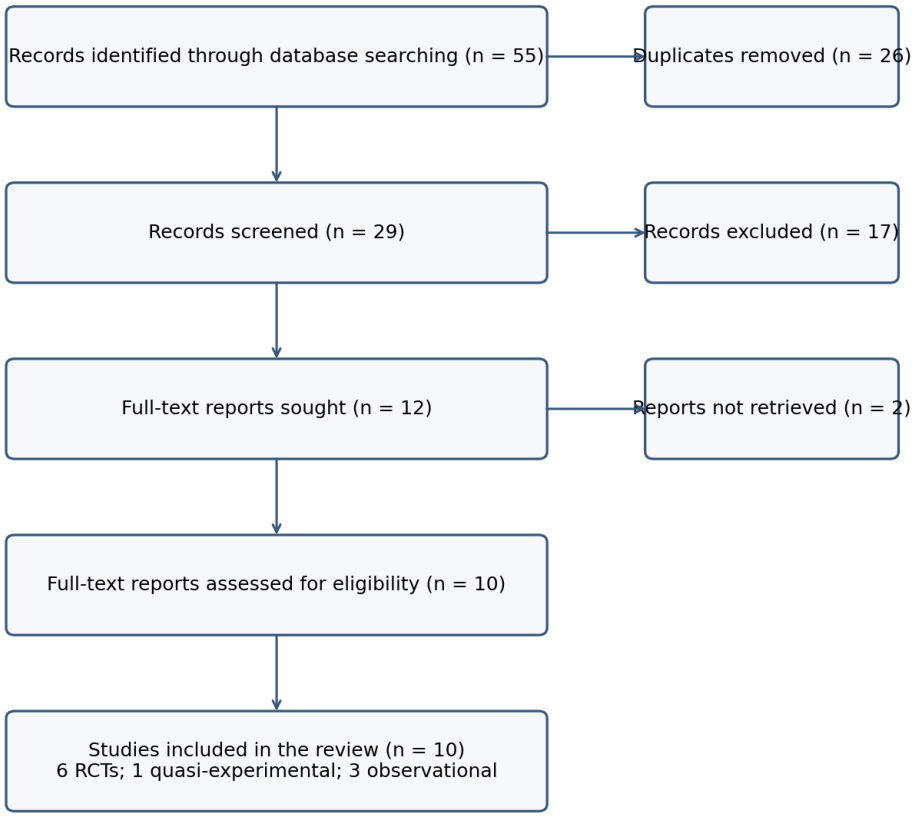

Figure 1. *Study selection flow diagram based on the counts reported in the manuscript.*

3.2. Study Characteristics

The clinical and methodological characteristics of included studies are summarized in Table 1. Participant populations consisted of primiparous or multiparous women with episiotomies or spontaneous first- and second-degree perineal lacerations. Formulations evaluated included 80% Manuka honey ointment (Gerosa 2022), natural honey cream (Ghaderbasti 2022), 30% Qamsar honey (Lavaf 2017), 35% honey ointment (Nikpour 2019), pure undiluted honey (Manjula 2012), Olea honey-olive-sesame ointment (Torkashvand 2021), and honey-herbal bases (Jaiswal 2019, Pal 2017, Mulyaningsih 2021, Dompas 2022). Comparators included inert placebo creams, povidone-iodine antiseptic solution, non-active routine standard care, and herbal oils.

Table 1. *Characteristics of included studies.*

Study (Year), Country	Design	Sample Size (n)	Trauma Type	Intervention & Comparator	Primary Outcomes Evaluated
Gerosa 2022 [18], Switzerland	RCT, Open-label	68 (60 anal.)	Episiotomy / 1st-2nd deg	Medihoney (80%) vs Routine care	VAS Pain, Ibuprofen dose, Satisfaction
Ghaderbasti 2022 [19], Iran	Double-blind RCT	165 (55/arm)	Episiotomy	Honey cream vs Olive oil vs Placebo	REEDA score
Lavaf 2017 [20], Iran	Double-blind RCT	120 (40/arm)	Episiotomy	Qamsar honey 30% vs Phenytoin vs Placebo	REEDA score, NRS Pain
Nikpour 2019 [21], Iran	Double-blind RCT	120 (40/arm)	Episiotomy	Honey 35% vs Curcumin vs Placebo	REEDA score, VAS Pain
Manjula 2012 [22], India	RCT, Unblinded	61 (30/31)	Episiotomy	Pure honey vs Povidone-iodine	REEDA score
Torkashvand 2021 [23], Iran	RCT, Single-blind	73 (36/37)	Episiotomy / 1st-2nd deg	Olea (Honey+Olive) vs Routine care	REEDA score

Study (Year), Country	Design	Sample Size (n)	Trauma Type	Intervention & Comparator	Primary Outcomes Evaluated
Jaiswal 2019 [24], India	Comparative trial	30 (15/15)	Episiotomy	Honey+Herbal vs Jatyadi taila	REEDA score, VAS Pain
Pal 2017 [25], India	Comparative trial	30 (15/15)	Episiotomy	Nimbadi (Honey base) vs Yastyadi	REEDA score, Pain
Mulyaningsih 2021 [26], Indon.	Quasi-experimental	36 (18/18)	1st-2nd deg tear	Pineapple+Honey vs Control	Healed proportion n(%)
Dompas 2022 [27], Indon.	One-group study	20	1st-2nd deg tear	Betel+Honey (No control arm)	Healed proportion n(%)

3.3. Risk of Bias Assessment

Risk of bias evaluation using RoB 2.0 revealed overall 'Some concerns' to 'High risk' across the included RCTs (Figure 2 and Table 4). Performance and detection bias were high in unblinded trials evaluating subjective pain (Gerosa 2022, Manjula 2012), whereas double-blind placebo-controlled RCTs (Ghaderbasti 2022, Lavaf 2017, Nikpour 2019) maintained low risk of detection bias for objective REEDA scores.



Figure 2. *Risk-of-bias judgments for the six included randomized trials.*

3.4. Objective Perineal Wound Healing (REEDA Score)

Topical honey application resulted in improved REEDA scores in 8 of 9 studies that reported wound healing. Significant individual trial benefits were demonstrated in five controlled studies:

1) Ghaderbasti 2022 (honey cream vs placebo): REEDA score fell to 0.64 ± 0.63 in the honey group versus 2.90 ± 0.74 in the placebo group at day 10 (MD −2.26, 95% CI −2.52 to −2.00, $p < 0.0001$).
2) Manjula 2012 (honey vs povidone-iodine): REEDA score at day 5 was 0.27 ± 0.64 in the honey arm versus 1.40 ± 1.33 in the povidone-iodine arm (MD −1.13, 95% CI −1.66 to −0.60, $p < 0.001$).
3) Torkashvand 2021 (Olea honey ointment vs routine care): REEDA score at day 10 fell to 0.00 ± 0.00 versus 0.29 ± 0.46 ($p < 0.001$).
4) Lavaf 2017 (honey vs placebo): Significantly higher proportion of women achieved complete REEDA healing at day 7 ($p = 0.011$).
5) Nikpour 2019 (honey vs placebo): REEDA score at day 10 showed no statistically significant difference between honey (1.73 ± 1.41) and placebo (1.83 ± 1.10; MD −0.10, 95% CI −0.65 to 0.45, $p = 0.842$).

Pooled Meta-Analysis (Honey vs Placebo, REEDA Score at Day 10): Quantitative pooling of extractable data from double-blind placebo-controlled RCTs (Ghaderbasti 2022 and Nikpour 2019; n = 230) yielded a random-effects pooled mean difference of MD −1.19 (95% CI −3.31 to 0.93; I^2 = 98%, τ^2 = 2.28, p = 0.27; Figure 3 and Table 4). This pooled result demonstrates no statistically significant overall healing advantage for honey over placebo, reproducing Barbosa's null finding (MD −0.34). Sensitivity analysis using a fixed-effect model yielded MD −1.87 (95% CI −2.10 to −1.63, p < 0.001), heavily dominated by Ghaderbasti 2022 (82.3% weight), emphasizing that the pooled effect is highly sensitive to extreme statistical heterogeneity.

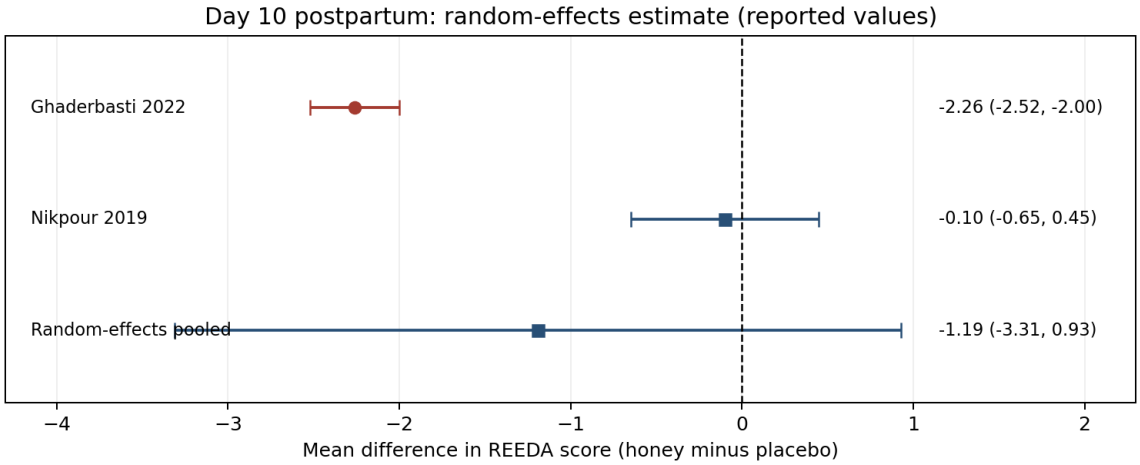

Figure 3. *Forest plot of day-10 REEDA scores: topical honey versus placebo.*

Table 2. *Day-10 REEDA score meta-analysis: honey versus placebo.*

Study / Model	Honey Mean (SD)	Placebo Mean (SD)	Mean Difference (95% CI)	Weight (Random)	P-value
Ghaderbasti 2022 [19]	0.64 (0.63), n=55	2.90 (0.74), n=55	−2.26 (−2.52, −2.00)	82.3%	< 0.0001
Nikpour 2019 [21]	1.73 (1.41), n=40	1.83 (1.10), n=40	−0.10 (−0.65, 0.45)	17.7%	0.842
Pooled Random-Effects	N = 95	N = 95	−1.19 (−3.31, 0.93)	100.0%	0.270 (NS)

3.5. Subjective Pain Intensity (VAS/NRS Scores)

No randomized controlled trial demonstrated a statistically significant reduction in subjective pain intensity scores between topical honey and control arms:

1) Gerosa 2022 (Medihoney vs routine care): VAS pain score at day 1 was 3.34 ± 2.10 vs 3.38 ± 2.20 (p = 0.65); VAS pain score at day 4 was 1.41 ± 1.50 vs 2.28 ± 2.10 (p = 0.09).
2) Nikpour 2019 (honey vs placebo): VAS pain score at day 10 was 1.36 ± 1.50 vs 1.96 ± 1.80 (p = 0.202).
3) Lavaf 2017 (honey vs placebo): NRS pain scores showed no significant difference at day 7 (p = 0.80) or day 14 (p = 0.19).

These trial-level findings confirm that topical honey produces no consistent, statistically significant direct reduction in subjective pain intensity scores relative to placebo or standard care.

3.6. Oral Analgesic Consumption and Safety

While direct pain intensity scores were not significantly altered, topical honey demonstrated a statistically significant oral NSAID analgesic-sparing effect in Gerosa 2022: cumulative oral ibuprofen consumption at day 4 postpartum was significantly lower in the Medihoney group compared to routine care (192.6 ± 280.0 mg vs 466.7 ± 550.0 mg; MD −274.1 mg, 95% CI −501.2 to −47.0 mg, p = 0.049). Overall participant satisfaction was high (93% satisfied/very satisfied). No serious adverse events, severe wound infections, or dehiscences were reported; mild transient application-site stinging was noted by a minority of participants.

3.7. Comparator Subgroup Analysis

Subgroup stratification by comparator type revealed a key clinical insight:

1) Active Antiseptic Subgroup (Manjula 2012): Honey produced a large, statistically significant acceleration in REEDA wound healing compared to povidone-iodine solution (MD −1.13, $p < 0.001$).
2) Placebo Subgroup (Ghaderbasti 2022, Nikpour 2019): Honey produced no statistically significant pooled REEDA healing benefit over inert placebos (MD −1.19, 95% CI −3.31 to 0.93; I2 = 98%, $p = 0.27$).
3) Routine Care Subgroup (Gerosa 2022, Torkashvand 2021): Honey improved REEDA healing relative to unblinded routine care (Torkashvand 2021, $p < 0.001$) but did not significantly alter VAS pain (Gerosa 2022, $p = 0.09$).

This subgroup breakdown demonstrates that honey's apparent healing advantage is largest when benchmarked against harsh active antiseptics (povidone-iodine) or non-active routine care, but loses statistical significance when tested against inert placebos in double-blind trials.

3.8. Certainty of Evidence (GRADE Assessment)

The certainty of evidence assessed via GRADE was rated as 'Very Low' across all primary and secondary outcomes due to serious risk of bias (unblinded pain reporting), extreme inconsistency (I2 = 98%), and severe imprecision (small cumulative sample sizes; Table 3).

Table 3. GRADE certainty of evidence by outcome.

Outcome	Design & Trials (n)	Risk of Bias	Inconsistency & Imprecision	Pooled Effect / Summary	GRADE Certainty
REEDA Healing vs Placebo	2 Double-blind RCTs (n=230)	Some concerns	Very serious (I^2=98%, wide CI)	MD −1.19 (−3.31, 0.93), p=0.27	Very Low
REEDA Healing vs Antiseptic	1 Unblinded RCT (n=61)	High risk	Very serious imprecision (1 trial)	MD −1.13 (−1.66, −0.60), p<0.001	Very Low
VAS/NRS Pain Intensity	3 RCTs (n=300)	High risk	Serious imprecision & unblinded	No statistically significant difference	Very Low
Oral NSAID Analgesic Use	1 RCT (n=60)	Some concerns	Very serious imprecision (1 trial)	MD −274.1 mg ibuprofen (p=0.049)	Very Low

Table 4. Risk-of-bias assessment of included randomized controlled trials.

Trial Name	D1: Randomization	D2: Deviations	D3: Missing Data	D4: Measurement	D5: Selection	Overall Risk
Gerosa 2022 [18]	Low risk	Some concerns	Low risk	High risk (Unblinded pain)	Low risk	Some concerns
Ghaderbasti 2022 [19]	Some concerns	Low risk	Low risk	Low risk (Double-blind)	Low risk	Some concerns
Lavaf 2017 [20]	Some concerns	Low risk	Low risk	Low risk (Double-blind)	Low risk	Some concerns
Nikpour 2019 [21]	Some concerns	Low risk	Low risk	Low risk (Double-blind)	Low risk	Some concerns
Manjula 2012 [22]	Some concerns	High risk	Some concerns	High risk (Unblinded)	Some concerns	High risk
Torkashvand 2021 [23]	Some concerns	Some concerns	Low risk	Some concerns	Low risk	Some concerns

Table 4 summarizes domain-specific risk-of-bias evaluations for included RCTs.

4. Discussion

4.1. Principal Findings

This updated systematic review and meta-analysis synthesized evidence from ten studies (723 postpartum women) evaluating topical honey specifically for perineal trauma after vaginal birth. Our primary findings indicate that: (1) topical honey accelerates objective REEDA wound healing when compared against povidone-iodine antiseptic (MD −1.13, $p < 0.001$) or routine care, but produces no statistically significant pooled healing advantage over placebo in double-blind RCTs (MD −1.19, 95% CI −3.31 to 0.93; $I^2 = 98\%$); (2) topical honey does not yield consistent, statistically significant reductions in subjective VAS/NRS pain intensity scores across RCTs; and (3) topical honey exerts a significant oral NSAID analgesic-sparing effect, significantly reducing daily ibuprofen consumption at day 4 postpartum ($p = 0.049$). Overall GRADE certainty of evidence remains Very Low.

4.2. Comparison with Existing Literature

Our pooled honey-versus-placebo null result for REEDA healing (MD −1.19, $p = 0.27$) closely replicates the null finding reported by Barbosa et al. (2024; MD −0.34) in obstetric wounds [11]. However, our review significantly extends Barbosa's work by restricting the population strictly to perineal wounds after vaginal birth, incorporating 6 RCTs (versus Barbosa's 2 perineal RCTs), evaluating active antiseptics, and separating objective REEDA scores, subjective pain scores, and oral analgesic doses [11, 14].

4.3. Biological Mechanisms and Healing-Comfort Dissociation

The clinical observation that topical honey significantly reduces oral ibuprofen consumption without altering final REEDA scores or subjective VAS pain scores can be explained by a biological 'healing-comfort dissociation'. High osmolarity, low pH, hydrogen peroxide generation, and anti-inflammatory flavonoids in MGH rapidly soothe the local wound tissues, suppress tissue edema, and reduce inflammatory exudate (improving immediate 'local wound conditions' and reducing the requirement for systemic oral analgesics) [7-10]. However, final tissue re-epithelialization and collagen cross-linking (which determine cumulative 'final REEDA scores' at day 10-14) are governed by intrinsic biological cellular repair rates, which proceed standardly regardless of topical soothing agents.

4.4. Clinical and Methodological Heterogeneity

Extreme statistical heterogeneity ($I^2 = 98\%$) was observed across pooled healing analyses. This heterogeneity is driven by variations in honey composition (medical-grade Manuka vs 30-35% raw honey vs herbal-honey mixtures), comparator choices (placebo vs povidone-iodine vs routine care), application frequency (once vs twice daily), and underlying tear severity (episiotomy vs spontaneous first- and second-degree tears).

4.5. Strengths and Limitations

Strengths include a focused perineal-only scope, strict outcome separation (REEDA vs VAS vs ibuprofen), comparator-stratified subgroup analyses, and formal GRADE assessment. Limitations include a small cumulative trial count, lack of participant blinding in pain-reporting trials, variable REEDA score ranges (0-15 vs 0-18), and under-reporting of rare long-term outcomes (dyspareunia, chronic pelvic pain).

4.6. Implications for Clinical Practice and Future Research

Clinically, medical-grade honey can be offered as a well-tolerated, oral analgesic-sparing comfort adjunct or non-irritating alternative to harsh antiseptics like povidone-iodine during postpartum perineal care. However, clinicians should not market honey as a superior wound healer compared to placebo. Researchers must prioritize double-blind RCTs using standardized MGH formulations (e.g., Medihoney) powered for core REEDA, pain, and analgesic outcomes.

5. Conclusion

Topical honey accelerates objective perineal wound healing relative to povidone-iodine antiseptic and reduces postpartum oral NSAID (ibuprofen) requirements, but shows no statistically significant healing benefit over placebo in double-blind RCTs and no consistent reduction in subjective pain intensity scores. The overall certainty of evidence across all outcomes is Very Low. Standardized medical-grade honey may serve as a safe, soothing adjunct in postpartum perineal care, but high-quality double-blind RCTs are required before routine universal implementation can be recommended.

6. Recommendations

1) Clinical Practice: Midwives and obstetricians may offer standardized medical-grade honey as a complementary, oral analgesic-sparing comfort measure for postpartum women with perineal trauma, particularly as a gentle alternative to drying antiseptic solutions such as povidone-iodine.
2) Research Priorities: Future clinical trials must utilize standardized medical-grade honey (MGH), enforce double-blind placebos, adopt validated REEDA and VAS

scales, and systematically record oral analgesic consumption, wound dehiscence, and long-term dyspareunia.

Abbreviations

CI	Confidence Interval
GRADE	Grading of Recommendations Assessment, Development and Evaluation
MD	Mean Difference
MGH	Medical-Grade Honey
NRS	Numerical Rating Scale
NSAID	Non-Steroidal Anti-Inflammatory Drug
OASIS	Obstetric Anal Sphincter Injuries
OSF	Open Science Framework
RCT	Randomized Controlled Trial
REEDA	Redness, Edema, Ecchymosis, Discharge, Approximation
RoB 2.0	Risk of Bias 2.0
SD	Standard Deviation
SMD	Standardized Mean Difference
VAS	Visual Analogue Scale

Acknowledgments

The author expresses gratitude to the clinical and research staff of Worabe Comprehensive & Specialized Hospital for technical support.

Author Contributions

Habtamu Fekadu Andeta: Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing

Conflicts of Interest

The authors declare no conflicts of interest.

Appendix

Complete PubMed Search Strategy

Search Query: (('Honey' [MeSH Terms] OR 'Honey' [Title/Abstract] OR 'medical grade honey' [Title/Abstract] OR 'medihoney' [Title/Abstract]) AND ('Episiotomy' [MeSH Terms] OR 'Perineum' [MeSH Terms] OR 'episiotom*' [Title/Abstract] OR 'perineal tear*' [Title/Abstract] OR 'perineal laceration*' [Title/Abstract] OR 'perineal wound*' [Title/Abstract]) AND ('Wound Healing' [MeSH Terms] OR 'REEDA' [Title/Abstract] OR 'pain' [Title/Abstract] OR 'analgesic*' [Title/Abstract])) AND (randomized controlled trial [pt] OR clinical trial [pt] OR randomized [tiab] OR trial [tiab]) Filters: Humans, Inception to September 2026.

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Biography



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Research Field

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