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Topkapı.**ADMINISTRATIVE INFORMATION****Support** - None.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202660128**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 June 2026 and was last updated on 27 June 2026.**INTRODUCTION**

Review question / Objective Among adolescents younger than 18 years undergoing labiaplasty (labia minora reduction), what are the pooled proportions of postoperative complications and of reoperation or intervention-requiring complications?

Population (P): Adolescents younger than 18 years undergoing labiaplasty for any indication, with extractable age-specific outcome data.

Intervention (I): Labiaplasty (surgical reduction of the labia minora) by any technique (edge/trim, wedge, composite, or other).

Comparator (C): None — this is a non-comparative, single-arm synthesis; no control group is required.

Outcomes (O): Primary — pooled proportion of any postoperative complication. Secondary — pooled proportion of reoperation or complication requiring further intervention.

Study design (S): Primary observational studies (prospective/retrospective case series and cohorts) reporting adolescent-specific outcomes.

Objective: To generate transparent quantitative summary estimates of the complication and reoperation burden of adolescent labiaplasty and to appraise the certainty of this evidence.

Rationale Labiaplasty is among the most frequently requested female genital cosmetic procedures, and demand among adolescents has risen. However, evidence specific to patients younger than 18 years remains fragmented across small, single-arm series, and several professional bodies (ACOG, endorsed by NASPAG; RCOG; SOGC; BritSPAG; FIGO) have issued cautionary positions on cosmetic genital surgery before physical and psychological maturity. Medically unnecessary surgical alteration of the labia in minors also raises specific legal and ethical considerations.

Despite this, no prior study has quantitatively synthesised postoperative complication and reoperation rates specifically in the adolescent population. Existing reviews either pool mixed adult–adolescent cohorts—obscuring age-specific risk—or remain narrative, leaving clinicians without a consolidated, age-specific estimate of procedural risk.

This single-arm meta-analysis of proportions pools complication and reoperation proportions from studies reporting extractable outcomes in patients younger than 18 years, using a random-intercept logistic (generalized linear mixed) model appropriate for proportion data and sparse events. Methodological quality is appraised (JBI and Murad tools) and certainty rated (GRADE), framing the pooled estimates as a transparent summary of low-certainty evidence rather than a basis for routine practice. Findings are intended to inform counselling, shared decision-making, and the ethical debate on labiaplasty in minors, and to highlight the methodological limitations of the current literature.

Condition being studied Labiaplasty (surgical reduction of the labia minora) in adolescents younger than 18 years and its postoperative outcomes—specifically postoperative complications and reoperation or intervention-requiring complications. Indications include labia minora hypertrophy causing functional symptoms (discomfort, irritation, interference with hygiene, activity, or sexual function) or psychological distress, and congenital or acquired anatomical concerns.

METHODS

Search strategy PubMed/MEDLINE, Embase, Cochrane CENTRAL, Web of Science, and Scopus were searched from inception to 2026, with no language restriction, following PRISMA-S. The strategy combined labiaplasty and adolescent concepts, adapted per database. Representative terms:

("labiaplasty" OR "labia minora reduction" OR "labial reduction" OR "labia minora hypertrophy" OR "nymphoplasty" OR "female genital cosmetic surgery")
AND
("adolescent*" OR "teenager*" OR "youth" OR "young wom*" OR "minor*" OR "under 18" OR "p? ediatric").

Supplemented by backward/forward citation searching and language-specific paediatric-surgery sources (English, Spanish, French, Portuguese).

Participant or population Patients younger than 18 years undergoing labiaplasty (labia minora reduction) for any indication, with extractable, age-specific postoperative outcome data. Adult-only or mixed-age cohorts without an isolable <18-year subgroup are excluded.

Intervention Labiaplasty (surgical reduction of the labia minora) by any technique—edge/trim resection, wedge resection, composite reduction, de-epithelialisation, or laser-assisted methods—under local or general anaesthesia.

Comparator Not applicable. This is a non-comparative, single-arm meta-analysis of proportions; no comparator or control group is analysed.

Study designs to be included Primary observational studies—prospective or retrospective case series and cohort studies—reporting adolescent-specific postoperative outcomes. Excluded: reviews, editorials, commentaries, guidelines, single case reports, and conference abstracts without extractable data. One eligible study contributing only narrative data is summarised qualitatively.

Eligibility criteria Inclusion: patients <18 years undergoing labiaplasty with extractable age-specific outcome data; primary observational design; any language; full text obtainable. Exclusion: adult-only or mixed-age cohorts without isolable <18-year data; no extractable adolescent-specific outcome; indication other than labia minora reduction; non-primary designs; duplicate/overlapping cohorts; abstracts without usable data.

Information sources Electronic databases: PubMed/MEDLINE, Embase, Cochrane CENTRAL, Web of Science, Scopus. Additional sources: backward and forward citation searching of included and relevant reports, and language-specific paediatric-surgery literature. Reference lists of pertinent reviews were screened.

Main outcome(s) Pooled proportion of any postoperative complication after adolescent labiaplasty (patients with ≥ 1 complication of any type/severity at any postoperative time point), pooled via a random-intercept logistic model and reported as an event proportion with 95% confidence interval.

Additional outcome(s) Pooled proportion of reoperation or intervention-requiring complication.

Supporting metrics: between-study heterogeneity (I^2 , τ^2) and certainty of evidence (GRADE).

Data management Records were imported into reference-management software, de-duplicated, and screened in two stages (title/abstract, then full text) by two reviewers. Eligible-study data were extracted into a piloted standardized spreadsheet with version control; discrepancies were resolved by consensus.

Quality assessment / Risk of bias analysis Methodological quality was assessed independently by two reviewers using the Joanna Briggs Institute (JBI) critical appraisal checklist for case series and the Murad et al. tool; disagreements were resolved by discussion. All included studies were at moderate or high risk of bias, informing the GRADE certainty rating.

Strategy of data synthesis Proportions were pooled using a random-intercept logistic (generalized linear mixed) model with maximum-likelihood estimation, appropriate for binomial proportion data and sparse events. Pooled proportions are reported with 95% confidence intervals on the back-transformed scale. Heterogeneity was quantified with I^2 and τ^2 (observed $I^2 = 0\%$). Certainty was rated with GRADE (very low).

Subgroup analysis Pre-specified exploration by surgical technique and study design where data permit. Given the small number of studies and zero heterogeneity ($I^2 = 0\%$), formal subgroup analysis was not feasible and is reported descriptively.

Sensitivity analysis Leave-one-out sensitivity analysis for the primary outcome to assess the influence of individual studies on the pooled estimate.

Language restriction None. A multilingual search (English, Spanish, French, Portuguese) was conducted; non-English reports were translated for screening and extraction.

Country(ies) involved Turkey.

Other relevant information Reporting follows PRISMA 2020 and PRISMA-S. Because data extraction and analysis were completed before registration, this record is a retrospective (non-prospective) registration; results were finalised prior to submission. No protocol amendments alter the pre-specified outcomes.

Keywords labiaplasty; adolescents; labia minora reduction; postoperative complications; reoperation; female genital cosmetic surgery; single-arm meta-analysis; meta-analysis of proportions.

Dissemination plans Peer-reviewed publication (target: Journal of Pediatric and Adolescent Gynecology) and presentation at relevant scientific meetings.

Contributions of each author

Author 1 - Serhat Sen - Serhat Şen conceived and designed the review, developed and ran the search, screened studies, extracted data, performed the statistical analysis, and drafted the manuscript.

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Author 2 - Feyza Gulgel Sen - Feyza Gülgel Şen contributed to study screening, data extraction, risk-of-bias assessment, interpretation, and critical revision of the manuscript for important intellectual content.

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