

# Systematic Literature Review (SRL) of Comparative Safety and Effectiveness of Hormonal LARCs.

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## OBJECTIVE

To review published evidence on Comparative Effectiveness and Humanistic Burden of Hormonal LARCs Levonorgestrel-IUD (LNG- IUD) and Etonogestrel Subdermal Implant (ESI).

## METHODS

A systematic literature search was performed using MEDLINE via PubMed, LILACS and CENTRAL. A search strategy was formulated and studies up to 2021 were included. Two reviewers independently selected the studies, summarized the data, and assessed the risk of bias. Critical evaluation of included studies was performed using appropriate tools. Systematic reviews and clinical trials in women of childbearing age who received hormone functioning LARCs were eligible for inclusion. Summary effect measures were present in mean differences (MD), homogeneity (I<sup>2</sup>) and odds ratio (OR).

## RESULTS

In a preliminary assessment of eligibility (title and abstract), 793 studies were excluded. In a furthermore detailed analysis (studies in full), we excluded 102 studies for the following reasons: study design and incorrect population. In the end, 3 studies met our inclusion criteria and were selected for data synthesis. In terms of efficacy outcomes, the ESI was more effective compared to LNG- IUD (0.5% to 0.9% for LNG and 0.0% for ESI). In young women, the implant showed superior efficacy in terms of pregnancy rate compared to the IUD (RR=1.44). Evidence of the continuation rate comparison between IMP-ETN and IUD are still controversial (I<sup>2</sup>>86). In women in the 6-week postpartum period, relevant continuation rates (70% to 100%) at 3, 6, and 12 months were evidenced in favor of ESI. Meta-analysis comparing AEs between IUDs vs ESI but did not show statistically significant differences in terms of safety.

1.44

**RELATIVE RISK IN YOUNG WOMEN FOR PREGNANCY REDUCTION**

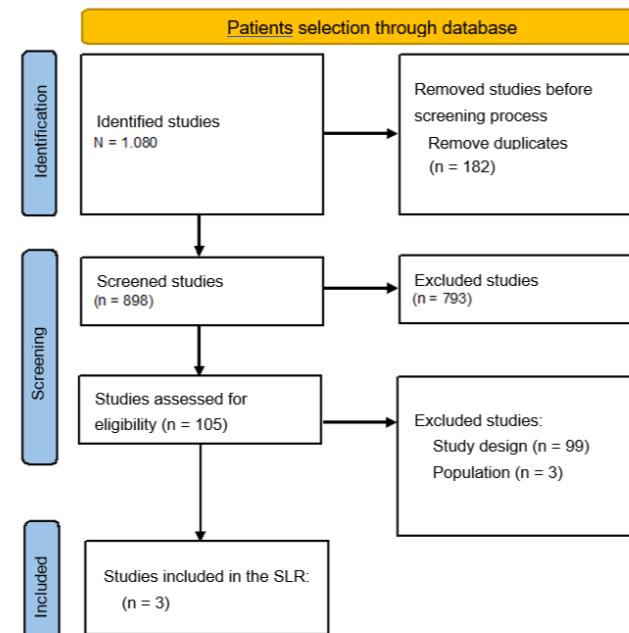
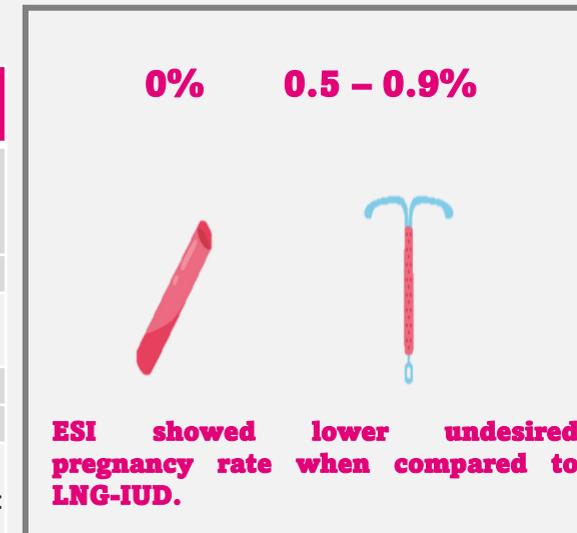


Figure 1. Studies selection flow.

Table 1. Included systematic reviews' characteristics and main results.

Author, Year	Outcome	Intervention / Comparator	Results
Moray et al., 2021	Pregnancy absence	ESI vs LNG vs Cu-DIU	ESI = 98.8% vs LNG-IUD = 98.9%
Rocca et al., 2021	Pregnancy absence	ESI vs LNG vs Cu-DIU	ESI (Implanon): 100% ESI vs ENG_IUD (Implanon): 100% in both ESI (Nexplanon): 100%
Farah et al., 2020	Pregnancy rate	ESI vs LNG	ESI vs Cu-IUD: 0% in both ESI vs LNG-IUD: Relative Risk = 1,44 (95% IC: 1,06 - 1,95)



## CONCLUSION

The ESI was safer and more effective compared to the LNG-IUD. There are significant limitations in the current evidence, mainly due to device based clinical approach.

## REFERENCES

Farah D, Andrade TRM, Di Bella ZIK de J, Girão MJBC, Fonseca MCM. Current evidence of contraceptive uptake, pregnancy and continuation rates in young women: a systematic review and Meta-analysis. Eur J Contracept Reprod Heal Care [Internet]. 2020;25(6):492-501. Available from: <https://doi.org/10.1080/13625187.2020.1833187>  
 Moray K V., Chaurasia H, Sachin O, Joshi B. A systematic review on clinical effectiveness, side-effect profile and meta-analysis on continuation rate of etonogestrel contraceptive implant. Reprod Health [Internet]. 2021;18(1):1-24. Available from: <https://doi.org/10.1186/s12978-020-01054-y>  
 Rocca ML, Palumbo AR, Visconti F, Di Carlo C. Safety and benefits of contraceptives implants: A systematic review. Pharmaceuticals. 2021;14(6):1-26.