**Introduction**

CESAREAN SECTION (CS)
- one of the most practiced surgeries in the world.
- important indicator of access to life-saving essential obstetric care (1).
- average CS rate has been increasing steadily (with no prediction for these rates to drop in the foreseeable future).
  - incremental burden on healthcare systems (2)
  - increased risks for both mother and child compared to vaginal delivery (3)
  - 2-fold increase in maternal morbidity compared with vaginal delivery

ENHANCED RECOVERY AFTER SURGERY (ERAS)
- implementation of evidence-based practice
- multidisciplinary and multimodal approach in peri-operative care within the surgical field
- Implementation of ERAS program adapted to this high prevalent obstetrical surgical procedure (4, 5, 6) was developed in 2010
- proposes better peri-operative care achievement
  - improved maternal medical care
  - reduced morbidity
  - faster return to normal daily activities
  - improved impact on quality of life

AIM ➢ analyse the outcomes of ERAS guidelines implementation in CS ➢ assess whether ERAS management is superior over standard care.

**Methodology**

SYSTEMATIC REVIEW:
- 3 databases (MEDLINE (Pubmed), Scopus and Web of Science)
- no time or language filters
- articles comparing outcomes on pregnant women who delivered via CS with ERAS guidelines implementation versus traditional approach without ERAS implementation.

Inclusion criteria:
- original primary published studies
- ERAS protocol implemented; at least one of the outcomes of interest established by this study: implementation of six or more ERAS guidelines interventions.

OUTCOMES:
- primary – hospital length of stay;
- secondary – opioid consumption, readmission rates and maternal complications (overall, surgical site infection and emetic morbidity).

All articles had their titles and abstracts screened by two authors, followed by a subsequent full article reading.

**Statistical analyses:**
- Using Review Manager 5.4
- Significance level of 5% considered
- Results were expressed as mean difference (MD), standardized mean difference (SMD) and odds ratio (OR), with 95% confidence intervals.
- Random effects statistical model was applied
- Heterogeneity was assessed using Cochran Q test, with a significant heterogeneity for p-values of the Cochran Q test ≤ 0.10 or for I² values ≥ 50%.
- Sensitivity analyses conducted when heterogeneity was considered significant, to evaluate robustness of given results.

**Results**

**THIS SYSTEMATIC REVIEW**
- Included 16 studies:
  - 3 randomized controlled trials (RCT)
  - 4 prospective cohorts
  - 9 retrospective cohorts
  - pool analysis of 19001 women

9249 following ERAS guidelines

**RESULTS:**

- significant length of hospital stay
- significant opioid consumption
- similar readmission rates
- similar maternal complications
- surgical site infection
- emetic morbidity

Sensitivity analyses showed robustness of results, corroborating these, and showing that the significant heterogeneity found in some forest plots had no significant impact in our results.

**Conclusion**

ERAS guidelines applied at CS management are associated with decreased length of stay and opioid consumption, without negatively impact on readmission rates and overall maternal complications, including surgical site infection and emetic morbidity. This may be a foremost help to confirm the beneficial impact of an ERAS approach during peri-caesarean management.

The reduced number of RCT studies and the heterogeneity of the studies (heterogeneous inter-study protocols) constitutes the major limitation of the evidence found. Further higher and more robust scientific evidence is needed, particularly studies with augmented sample size, more controlled application of specific ERAS guidelines, namely regarding the weight of different ERAS specific guidelines, in order to be possible to extrapolate the real impact of each specific ERAS guideline on each outcome.

These findings come in a time when financial pressure is at its highest and the volume of caesarean deliveries are soaring, so revamping this obstetrical surgical procedure with good practices implementation is a major health's concern and compliance to ERAS elements may be a step forward.

**References**