“Endogenous Sex Hormones and Colorectal Cancer Risk: A Systematic Review and Meta-Analysis”

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Background

To investigate the associations between endogenous concentrations of sex hormones and colorectal cancer (CRC) risk.

Methods

- MEDLINE-PubMed and Elsevier’s Scopus databases were searched up to June 17th 2020
- Only prospective studies, focusing on endogenous sex hormones, namely plasma testosterone, estradiol, and sex-hormone binding globulin (SHBG) were included.
- Generalized least-square regression was used to express the study-specific estimates on a continuous scale.
- Inverse variance random effects DerSimonian-Laird meta-analysis (MA) was applied to pool study-specific estimates.
- Heterogeneity was evaluated using the I^2 metric.

Results

- Eight studies were eligible (**Figure 1**).
- Studies included on average 295 cases (range: 48-732) and 2,105 controls.
- No association was observed for testosterone, estradiol and SHBG in neither men nor women, with evidence for heterogeneity observed only in women (**Figure 2**).

Figure 1. Flow-chart of study selection.

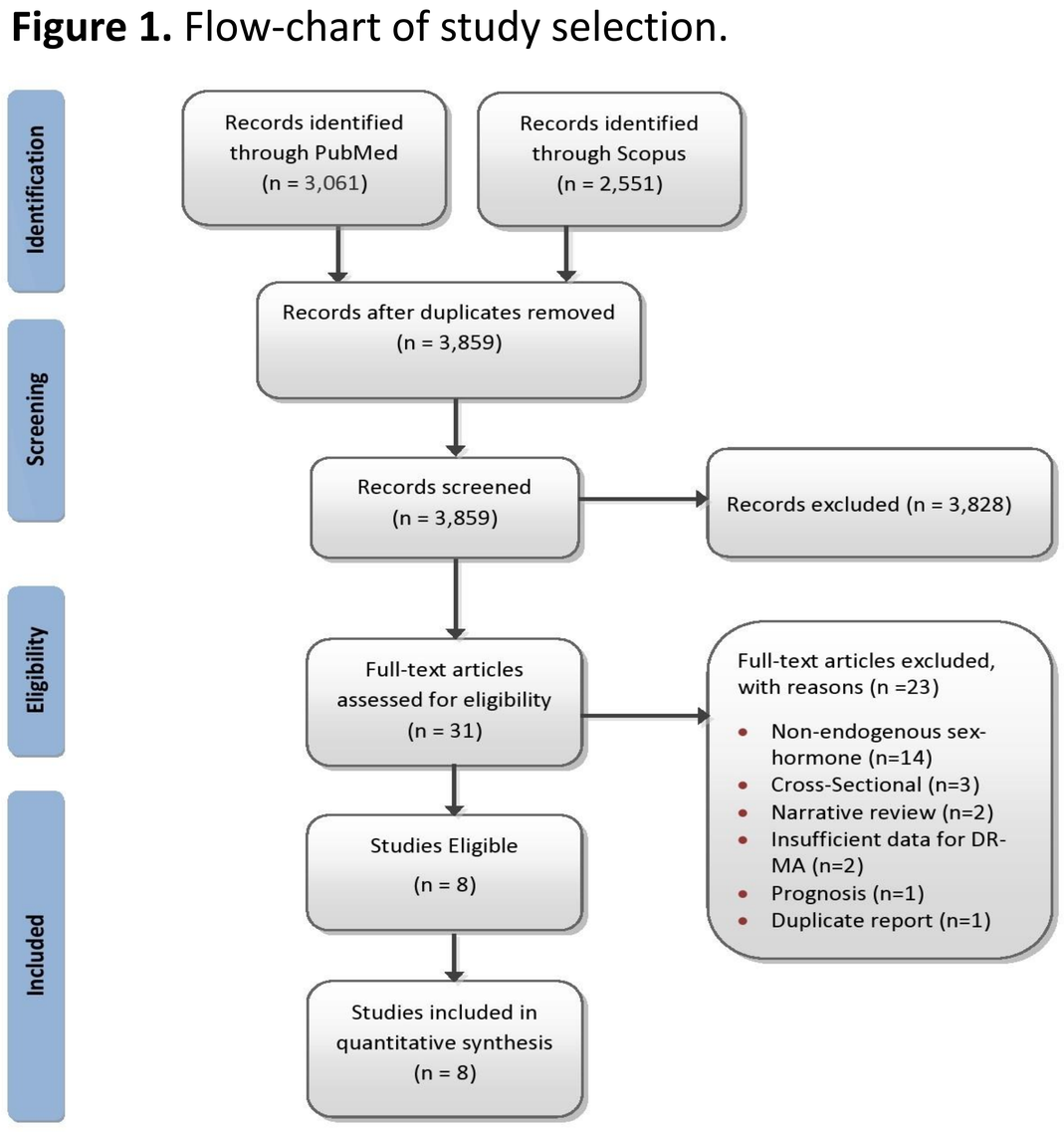
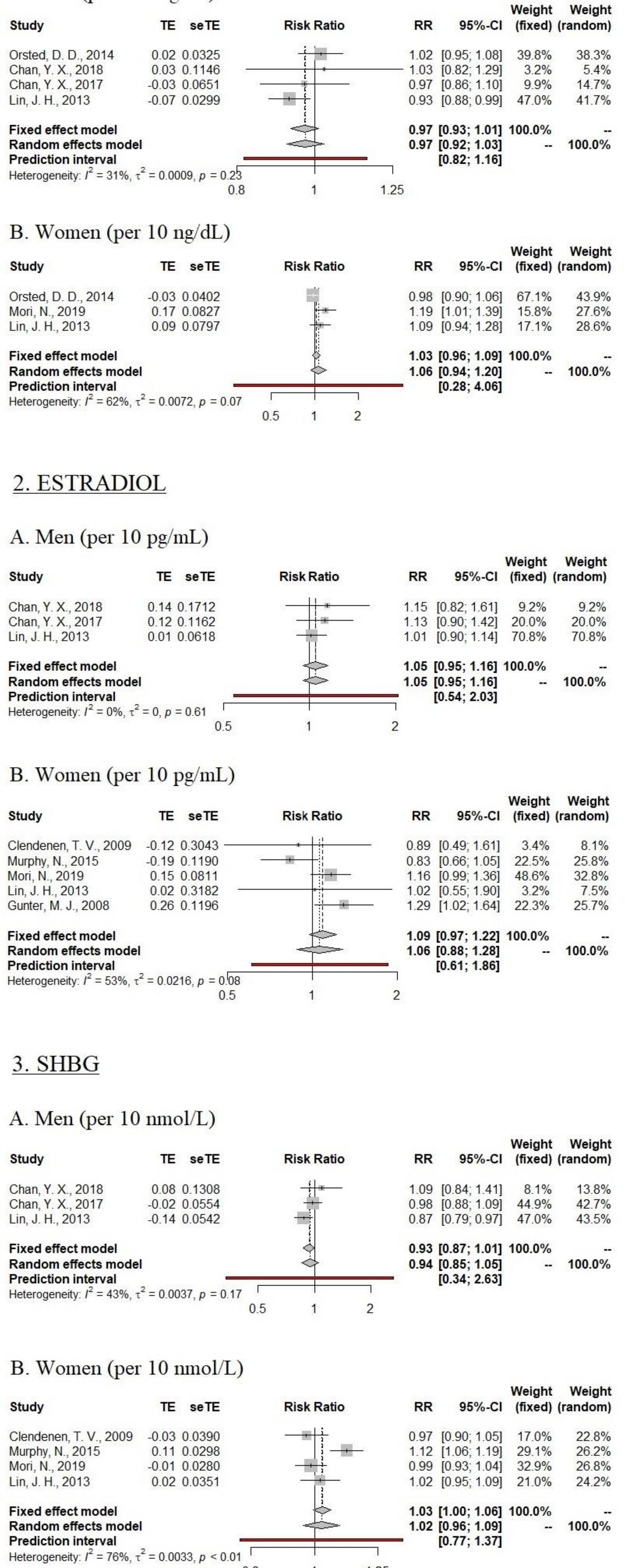


Figure 2. Forest plots of sex hormones and CRC risk.



Conclusions

Findings from this MA do not support associations of pre-diagnostic concentrations of testosterone, estradiol and SHBG with incident CRC in men or post-menopausal women.

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