



THE 4TH MULAWARMAN INTERNATIONAL  
CONFERENCE ON TROPICAL PUBLIC HEALTH  
(MICTOPH) 2025



## ABSTRACT

**Title of Abstract** : Effect of *Camellia sinensis* on Hormones and Body Weight in PCOS: A Systematic Review and Meta-Analysis  
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**Background:** Polycystic Ovary Syndrome (PCOS) is the most common polygenic endocrine disorder in women of reproductive age. PCOS is characterized by symptoms of excess androgen hormones, ovulation disorders, and obesity. The polyphenol content in *Camellia sinensis* extract has been reported to be beneficial in lowering testosterone levels and stabilizing luteinizing hormone production, thereby improving the ovulation process in PCOS patients.

**Objective :** Identify studies that use clinical trials and studies that evaluate *Camellia sinensis* extract in animal models of PCOS

**Research Methods/ Implementation Methods :** A comprehensive search was conducted on five databases, including SCOPUS, Science Direct, PubMed, ProQuest, and EBSCO, published from 2015-2025 met inclusion criteria. Risk of bias was assessed using SYRCL's. Data were analyzed using RevMan 5.4 software

**Results:** Three studies were included in the meta-analysis, which involved 74 female rats. Compared to the untreated PCOS rat group, managing of *Camellia sinensis* polyphenols to PCOS rats had a significant effect in reducing testosterone levels (MD = -7.17, 95% CI: -9.96 to -4.39,  $P < 0.00001$ ,  $I^2 = 59\%$ ), luteinizing hormone (LH) levels (MD = -4.57, 95% CI: -4.67 to -4.46,  $P < 0.00001$ ,  $I^2 = 15\%$ ), and body weight (MD = -40.31, 95% CI: -50.62 to -30.00,  $P < 0.00001$ ,  $I^2 = 0\%$ ) indicating high consistency of treatment effects across all included studies.

**Conclusion/Lesson Learned :** *Camellia sinensis* polyphenols significantly reduced testosterone, LH, and body weight levels in PCOS mouse models, demonstrating their potential as an effective alternative therapy for polycystic ovary syndrome management.

**Keyword :** *Camellia sinensis*, Polyphenol, PCOS, Testosteron, LH, Body Wight