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Polyphenol supplementation inhibits physiological increase of prostaglandin E2 during reproductive period - A randomized clinical trial.

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Abstract

Anti-inflammatory property of polyphenols and their effect on the metabolism of prostaglandins is not established in healthy humans. This study aimed to evaluate the effect of polyphenol supplementation in plasma levels of prostaglandin E₂ and other markers of inflammation and oxidative stress in women using contraceptives. In this randomized double-blind clinical trial, women aged 25-35 years were selected. Participants received capsules containing polyphenols or placebo, to be consumed for fifteen days. From 40 women randomized, 28 completed the study. Control group showed a significant increase in the levels of PGE₂ (p=0.01) while the polyphenols group showed no change in these levels (p=0.79). There was an increase in hs-CRP (p<0.01) and F₂-isoprostane (p=0.04) in the control group. The GSSG to GSH ratio significantly reduced in the polyphenols group (p=0.02). Supplementation with polyphenol capsules inhibited the increase in markers of inflammation and oxidative stress in women of childbearing age using combined hormonal contraceptives.

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