



## ORAL RESVERATROL IN ADULTS WITH KNEE OSTEOARTHRITIS: A RANDOMIZED PLACEBO-CONTROLLED TRIAL (ARTHROL)

Nguyen, C ; Coudeyre, E ; Boutron, I ; et al.  
PLoS medicine. 2024;21(8):e1004440

Osteoarthritis-associated chronic pain is in part driven by low-grade local and systemic inflammation. Knee osteoarthritis affects middle-aged and older individuals and results in knee pain and knee-specific activity limitations.

This study aimed to assess whether oral resveratrol supplementation, as an add-on therapy to usual care, could reduce knee pain at 3 months as compared with matched placebo in individuals with painful knee osteoarthritis.

This research (ARTHROL) was a 6-month double-blind, randomised, placebo-controlled, Phase 3 trial conducted in 3 tertiary care centres of 142 individuals with knee osteoarthritis (KO). Participants were randomly assigned (1:1) to receive 40mg oral resveratrol (resveratrol group) or matched oral placebo (placebo group). The results showed that after 3 months there was no greater reduction in knee pain in the resveratrol group compared to the placebo group.

Authors concluded that their findings do not support the use of resveratrol supplementation for reducing knee pain in adults with painful knee osteoarthritis.

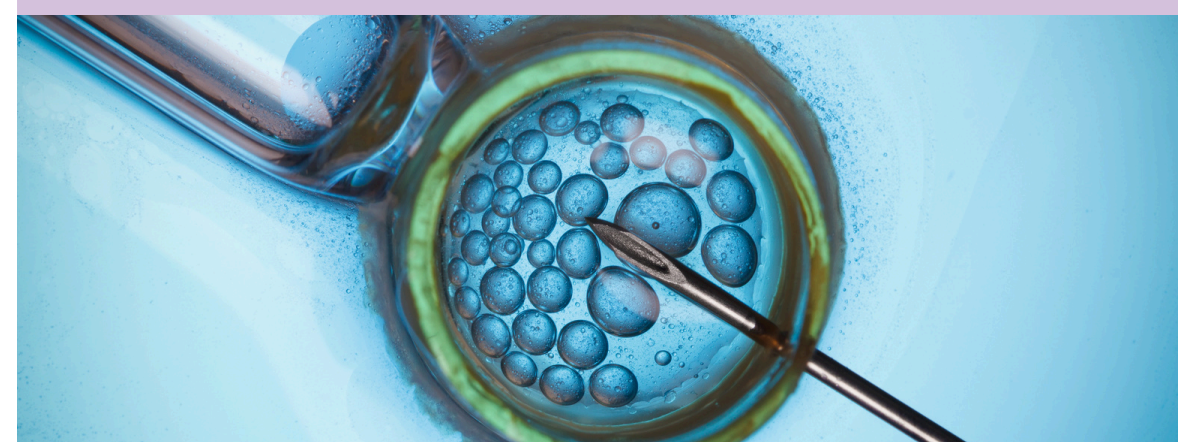
## THE IMPACT OF RESVERATROL ON THE OUTCOME OF THE IN VITRO FERTILIZATION: AN EXPLORATORY RANDOMIZED PLACEBO-CONTROLLED TRIAL

Conforti, A ; Iorio, GG ; Di Girolamo, R ; et al.  
Journal of ovarian research. 2024;17(1):81

Women with reduced ovarian sensitivity produce less eggs in response to exogenous gonadotropin, which alongside ageing can result in poorer in vitro fertilisation (IVF) prognosis. Resveratrol is a polyphenol, which may counteract ageing but as yet has no data on ovarian sensitivity.

This study aimed to determine the effect of resveratrol supplementation on ovarian responsiveness in ageing women with normal ovarian reserve markers. This was a randomised, single-blind, controlled trial of 73 infertile women given either trans-resveratrol and resveratrol (150mg) supported on magnesium dihydroxide, folic acid (400mg), vitamin D (25mg), vitamin B12 (2.5mg) and vitamin B6 (1.4mg), or placebo for 3 months prior to IVF.

The results showed that compared to control, those who took resveratrol had increased ovarian response to fertility treatments. Indicated by ovarian sensitivity indicators (follicle output rate and follicle-to oocytes index). However, this did not translate into improved pregnancy rates. The authors concluded that pre-treatment with resveratrol improves ovarian sensitivity to exogenous follicle stimulating hormone in women of advanced reproductive age.



## RESVERATROL AMELIORATES MITOCHONDRIAL BIOGENESIS AND REPRODUCTIVE OUTCOMES IN WOMEN WITH POLYCYSTIC OVARY SYNDROME UNDERGOING ASSISTED REPRODUCTION: A RANDOMIZED, TRIPLE-BLIND, PLACEBO-CONTROLLED CLINICAL TRIAL

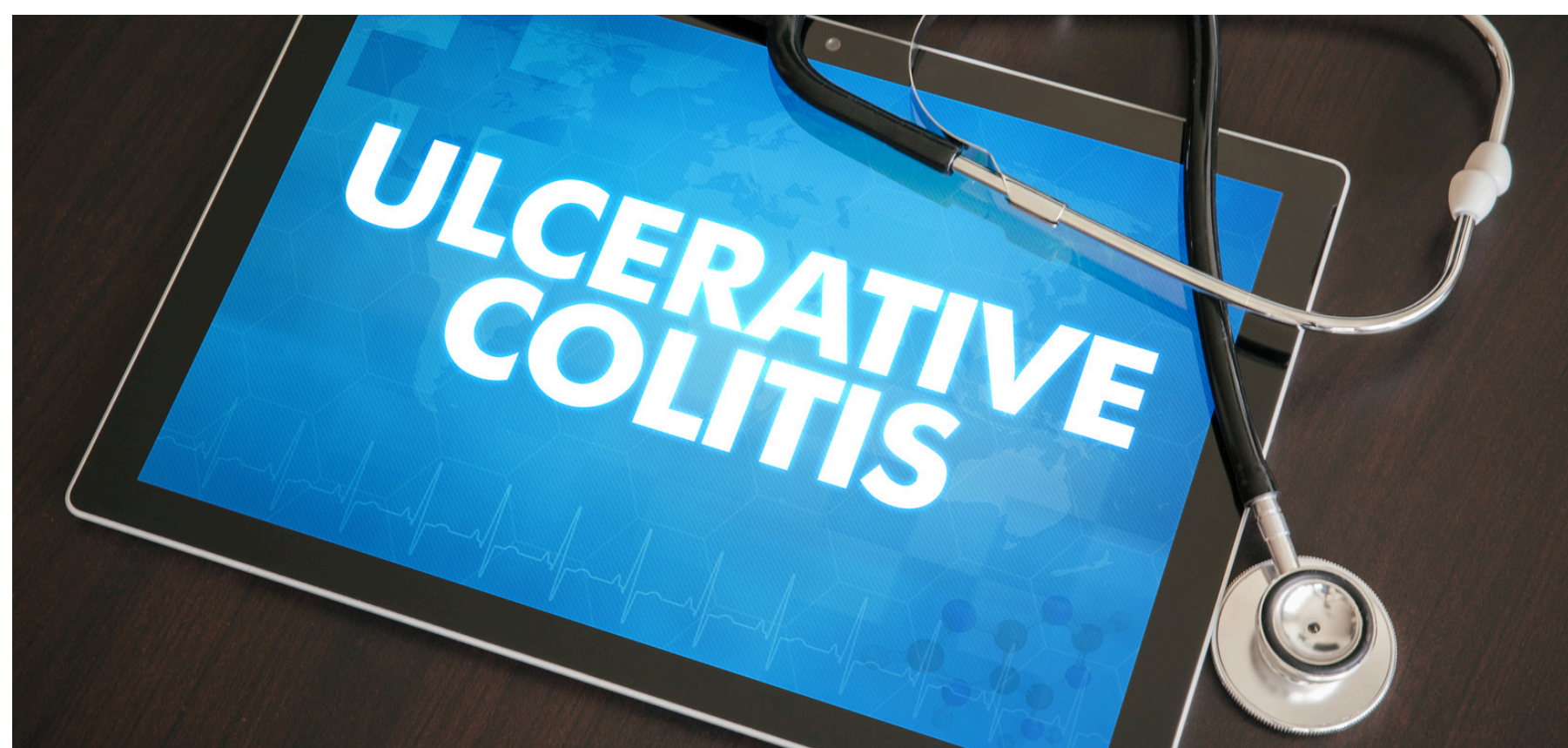
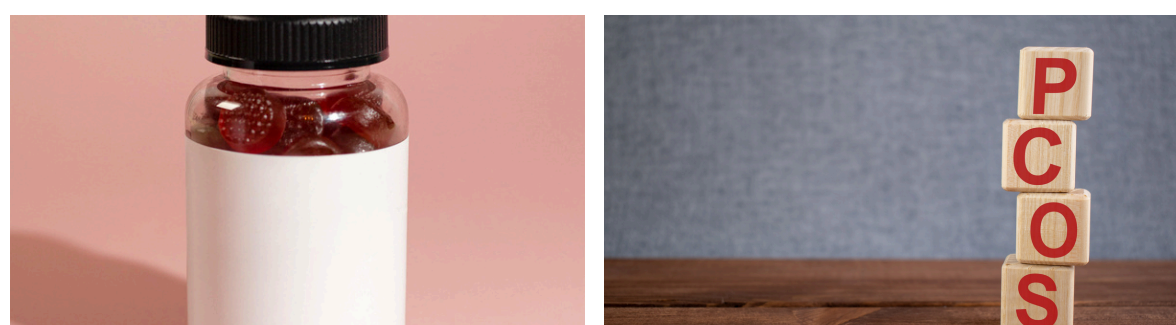
Ardehjani, NA ; Agha-Hosseini, M ; Nashtaei, MS ; et al.  
Journal of ovarian research. 2024;17(1):143

Polycystic ovary syndrome (PCOS) is an endocrine disorder associated with mitochondrial dysfunction, which contributes to oxidative stress. Resveratrol is a natural compound that has a role in the regulation of antioxidant enzymes, mitochondrial activity and may help alleviate PCOS symptoms.

This trial aimed to determine the potential for resveratrol to improve mitochondrial biogenesis and assisted reproduction. This was a randomised, triple-blind, placebo controlled trial of 56 individuals with PCOS followed over 60 days.

The results showed that compared to placebo, resveratrol therapy improved markers of oxidative stress in follicular fluid and mitochondrial biogenesis in granulosa cells. Individuals given resveratrol had better oocyte maturity rate and percentage of high-quality embryos than those given placebo. There were no differences in other measures of assisted reproduction technique.

Authors concluded that resveratrol may be a promising therapy for women with PCOS undergoing assisted reproduction.



## EFFECTS OF MEDITERRANEAN DIET, CURCUMIN, AND RESVERATROL ON MILD-TO-MODERATE ACTIVE ULCERATIVE COLITIS: A MULTICENTER RANDOMIZED CLINICAL TRIAL

Erol Doğan, Ö ; Karaca Çelik, KE ; Baş, M ; Alan, EH ; Çağın, YF  
Nutrients. 2024;16(10)

The Mediterranean diet (MD) is a diet with anti-inflammatory properties characterised by a high intake of fresh fruits and vegetables, fish, olive oil and small amounts of dairy and red meat. Adherence to this diet has been shown to modulate disease activity in individuals with ulcerative colitis (UC), resulting in improved quality of life (QoL). Resveratrol is a natural compound that may modulate mitochondrial dysfunction and inflammation and be of benefit to symptoms of UC. This trial aimed to determine the effect of the MD and the MD when combined with resveratrol or curcumin .

This was an 8-week, multi-centre, randomised control trial of 46 individuals assigned to MD or the MD when combined with resveratrol (500 mg/day) or curcumin (1600 mg/day). The results showed that the MD was effective at reducing disease activity and inflammation regardless of the supplement it was combined with. When combined with resveratrol, the MD improved the levels of white blood cells and neutrophils, and improved the neutrophil- to-lymphocyte ratio. The authors concluded that the addition of resveratrol and curcumin do not provide any additional benefits to the MD for individuals with UC.