

EDITION 6



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The Effect of Oral Resveratrol Supplementation on Fertility in Women with Polycystic Ovary Syndrome (PCOS)



Negar Karimian, Roozbeh Tayebi, Monireh Dahri



Introduction:

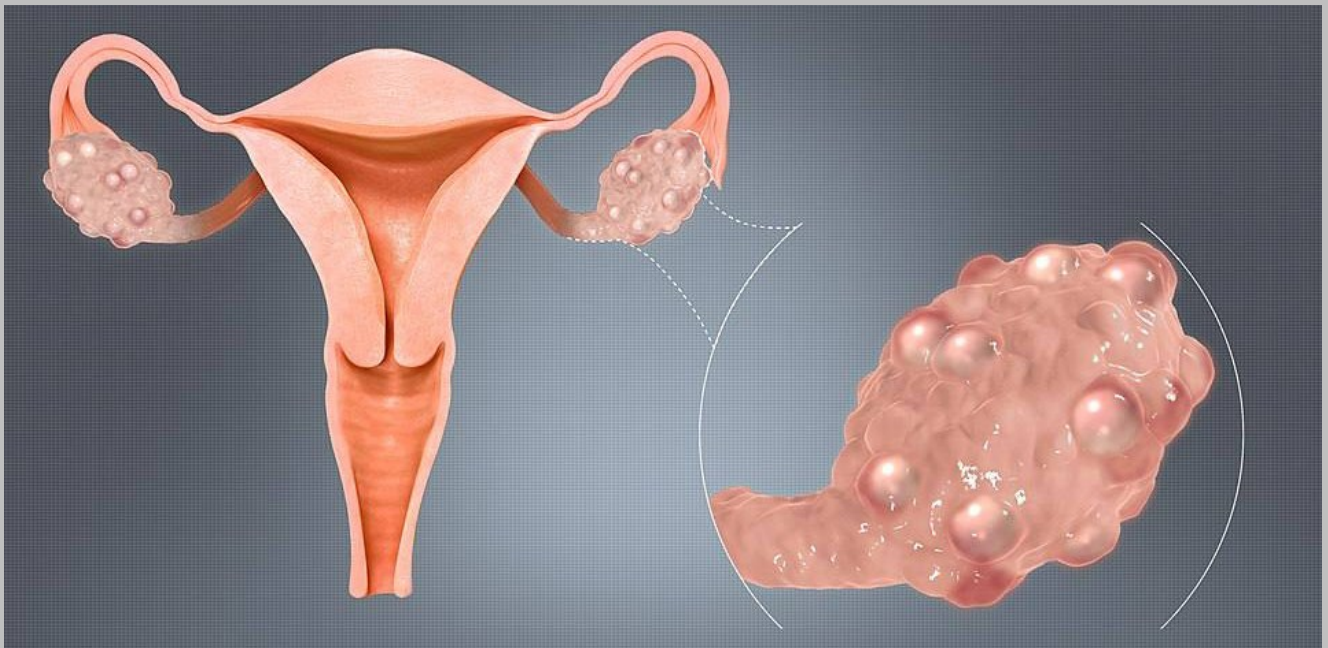
Polycystic Ovary Syndrome (PCOS) is a hormonal and metabolic disorder that affects women of reproductive age. Symptoms of this condition include irregular menstrual cycles, anovulation, and excessive androgen production. Supplementation with resveratrol, alongside other treatment methods for PCOS, is recommended to reduce its symptoms and complications. This study examines the effect of oral resveratrol supplementation in women with PCOS.

Materials and Methods:

For this study, a search was conducted in the Google Scholar and PubMed databases using the keywords Resveratrol, PCOS, RCT, and Supplementation. The time frame for the search was from 2019 to 2024. Ultimately, three randomized controlled trials (RCTs) and one meta-analysis were included.

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Results:

Resveratrol supplementation in the intervention group significantly reduced testosterone, LH, and DHEAS levels, while increasing FSH and TSH levels compared to the placebo group. Resveratrol also reduced oxidative stress, increased total antioxidant capacity, improved oocyte maturation rates, and enhanced the quality of embryos. Additionally, resveratrol supplementation led to an improvement in PCOM and a reduction in ovarian volume. Supplementation with a daily dose of 800 to 1000 mg for 1 to 3 months resulted in the alleviation of symptoms and complications associated with PCOS.

Conclusion:

Based on the reviewed studies, oral resveratrol supplementation may help improve ovarian function and hormonal balance in women with PCOS. However, further studies are needed to confirm these results.

Keywords:

Resveratrol, PCOS, RCT, Supplementation, Randomized Controlled Trial (RCT).

HORMONE BALANCE



Effect Of Kangaroo Mother Care On Physical Outcomes In Premature Infants: A Narrative Review



Ghazal Hashempour, Seyed Sara Tabasi, Monir Dahri



Materials and Methods:

In this study, we searched databases including Google Scholar and PubMed using the keywords “Premature infant,” “Kangaroo Mother Care,” “exclusive breastfeeding,” “feeding tolerance,” “pain management,” and “physical growth.” The search was limited to articles published between 2019 and 2024, resulting in four randomized clinical trial articles.



Introduction:

Premature infants require special care due to the immaturity of their bodily systems, particularly in terms of nutrition and pain management. Kangaroo Mother Care (KMC) has been recognized as a simple and effective method to improve the health of these infants. This study investigates the effects of KMC on premature infants, with a focus on nutrition, growth, feeding tolerance, and pain management.





Results:

Infants who underwent KMC demonstrated better physical growth and higher rates of exclusive breastfeeding compared to control groups. These infants also exhibited improved feeding tolerance, with fewer instances of gastric residuals and shorter times to achieve full feeding. Regarding pain management, KMC significantly reduced pain in premature infants, outperforming other methods such as oral sucrose administration.

Conclusion:

KMC, as a safe, cost-effective, and efficient method, has positive impacts on physical growth, nutrition, and pain reduction in premature infants. It can be integrated into the standard care practices for premature infants in hospitals.

Keywords:

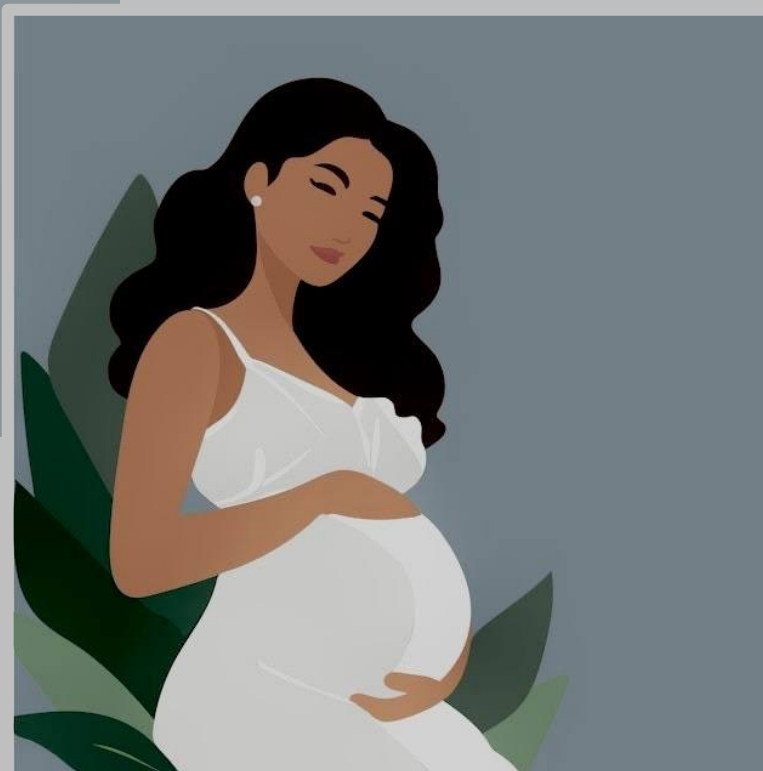
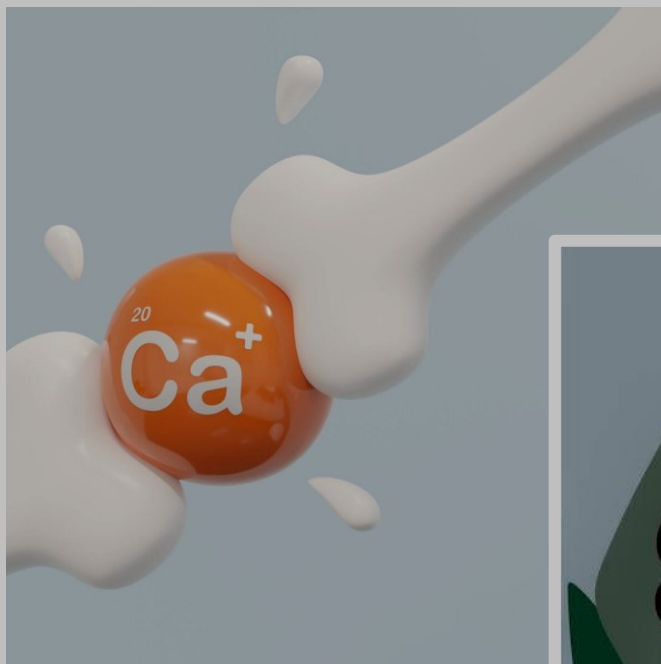
Premature infant, Kangaroo Mother Care, Exclusive breastfeeding, Feeding tolerance, Pain management, Physical growth



The Impact of Calcium Supplementation on the Prevention of Preeclampsia in Pregnant Women: A Systematic Review

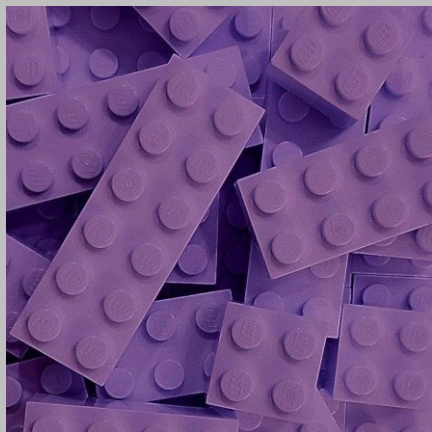


Somayye saadat, mohaddeseh norouzi, Parisa Zarei-Shargh



Background:

This systematic review evaluates the effects of calcium supplementation on the prevention of preeclampsia, a serious pregnancy complication characterized by hypertension and proteinuria.



Methods:

Despite extensive research, the majority of studies indicate that routine calcium supplementation does not significantly prevent the onset of preeclampsia. However, recent meta-analyses suggest that higher doses, specifically those exceeding 1.5 grams per day, may be effective in reducing the risk of developing this condition.

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Results:

Recent studies have demonstrated that calcium supplementation during pregnancy can significantly reduce the risk of developing preeclampsia. In a study conducted in South Africa and India, a dosage of 500 mg of calcium was shown to be effective in lowering this risk. Furthermore, another investigation carried out in Tanzania and China indicated that a higher dosage of 1500 mg of calcium also effectively mitigated the risk of preeclampsia.

These findings highlight the critical importance of adequate calcium intake, particularly for pregnant women who may be at risk of deficiency. The World Health Organization recommends that pregnant women with insufficient dietary calcium intake commence daily calcium supplementation from the twentieth week of gestation until the end of pregnancy.



Conclusion:

The results underscore the importance of addressing dietary calcium levels among pregnant women, particularly in high-risk groups, to potentially improve maternal and fetal health outcomes related to preeclampsia. This review calls for more targeted research to establish clear guidelines for calcium supplementation during pregnancy.

Keywords:

Preeclampsia, Calcium, Pregnancy



Associations Between Bacterial Vaginosis and Dietary Intake: A narrative Review



Shadi Jorkesh, Elham Goli, Parisa Zarei-Shargh



Introduction:

Bacterial vaginosis (BV) is the most prevalent vaginal infection among women of reproductive age, linked to various complications, including sexually transmitted infections and adverse pregnancy outcomes. Recent studies have highlighted the influence of dietary intake on the vaginal microbiota, suggesting its potential role in modulating the risk of BV. This review aims to explore the relationship between dietary patterns, as well as the intake of specific macronutrients and micronutrients, and the risk of contracting BV.

Materials and Methods:

This review was conducted by searching databases including PubMed, Scopus, and Google Scholar, utilizing the keywords “bacterial vaginosis,” and “dietary intake”. The search was limited to articles published between 2019 and 2024 that investigated the association between bacterial vaginosis and dietary intake. Titles and abstracts were independently reviewed based on eligibility criteria, followed by a full-text evaluation of the related studies. Ultimately, four articles were selected for inclusion in the review.





Results:

The findings indicate that adherence to plant-based dietary patterns and higher fiber intake, particularly from whole grains, is linked to a lower risk of BV. Conversely, dietary patterns high in refined sugars, trans fats, and sodium appear to increase BV prevalence. Nutritional factors, such as low glycemic index/load and adequate micronutrient intake (e.g., vitamin D, betaine), positively influence vaginal microbiota composition by promoting Lactobacillus-dominated profiles.

Conclusion:

Dietary intake plays a significant role in the modulation of vaginal microbiota and the risk of BV. Encouraging plant-based diets and minimizing unhealthy dietary components may be an effective strategy for BV prevention. Further research is required to validate these findings in diverse populations.

Keywords:

Bacterial vaginosis, dietary intake, vaginal microbiota, fiber, glycemic index



Effect of Astaxanthin Supplementation on Oxidative Stress Biomarkers and Female Fertility Outcomes: A Review



Sara Seyedi, Zahra Sadat Razavi, Alireza Gheflati



Introduction:

Infertility is the inability to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. It is a widespread issue, affecting approximately 13% of women and 10% of men globally. One of the main causes of infertility is oxidative stress, along with inflammatory diseases such as PCOS and endometriosis. Astaxanthin supplementation may play a significant role in improving fertility outcomes in women. This study reviews the effects of astaxanthin supplementation in infertile women. The main objective of the present review of clinical studies was to provide a comprehensive overview of the current evidence on the effects of astaxanthin on female fertility and reproductive outcomes. The effect of astaxanthin on redox status and inflammatory markers in reproductive organs was included as the secondary outcome.

Materials and Methods:

For this study, we systematically searched databases including Google Scholar and PubMed using keywords such as “infertility,” “astaxanthin,” “oxidative stress,” and “ART outcomes” with a time limitation of 2019 to 2024. We identified 20 records through database searching. 10 records remained after removing duplicated studies, and 2 studies were excluded by the title, and 4 of them were excluded by the abstract. Ultimately, 4 clinical studies were included in the final assessments.





Results:

Astaxanthin supplementation in the study group significantly improved catalase levels, total antioxidant capacity, oocyte maturation rate (MII), the number of oocytes, and high-quality embryos. Additionally, it positively affected the levels of IL-6 and IL-1, as well as the outcomes of assisted reproductive technologies in the intervention group.

Conclusion:

Based on the reviewed literature, astaxanthin supplementation may effectively reduce biomarkers of oxidative stress and improve fertility outcomes in women. However, further studies are needed in this area.

Keywords:

Astaxanthin, infertility, oxidative stress, ART outcome



Investigating the Impact of L-Arginine Supplementation during Pregnancy on the Management of Intrauterine Growth Restriction (IUGR)



Aida Shoraka, Fatemeh Dankoob, Parisa Zarei Shargh

Introduction:

Intrauterine Growth Restriction (IUGR) refers to a pathological condition in which the fetus is unable to achieve its genetically determined growth potential in utero. This condition poses significant challenges to both maternal and fetal health. Given the critical role of protein and amino acid intake in fetal development, L-arginine supplementation may contribute to improved pregnancy outcomes. This study investigates the effect of L-arginine supplementation on the management of IUGR and neonatal outcomes.



Methods:

Relevant articles were searched using the keywords IUGR, L-Arginine, and fetal outcome in the Google Scholar and PubMed databases, limited to publications from 2018 to 2025. The final selection included two randomized case-control studies, one observational study, and one meta-analysis.





Results:

L-arginine supplementation in pregnant women with IUGR pregnancies led to an increase in estimated fetal weight, birth weight, Apgar scores, and the duration of pregnancy.

Conclusion:

Based on the reviewed studies, L-arginine appears to be a promising option for enhancing fetal growth and reducing complications associated with IUGR. However, further research is needed to confirm these findings.

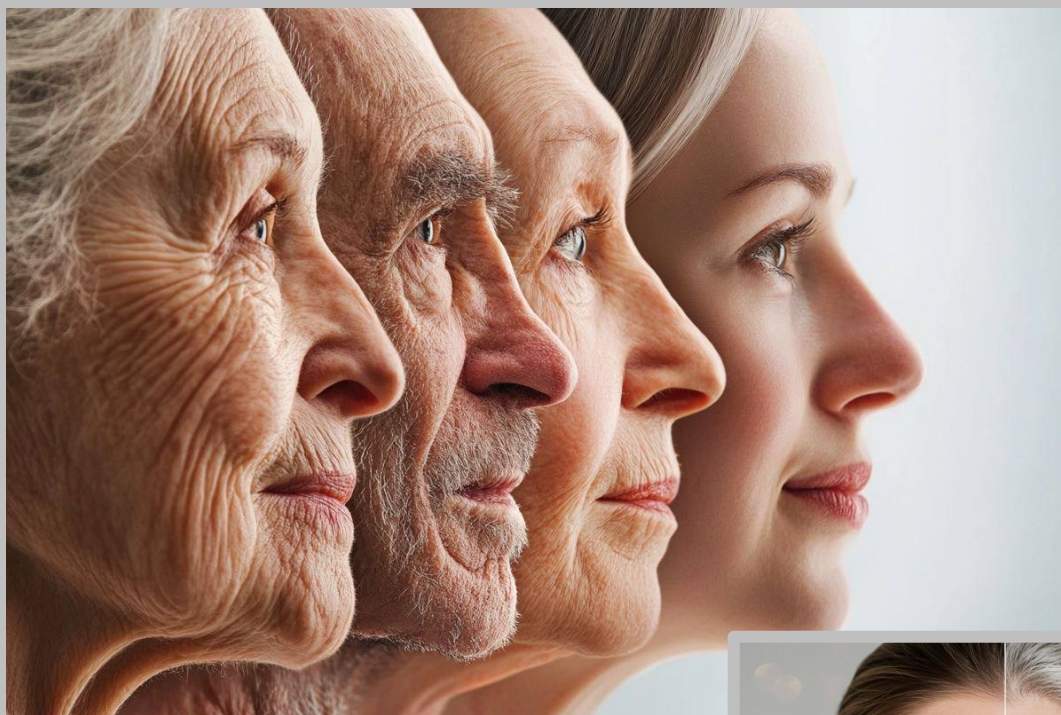
Keywords:

L-Arginine; Intrauterine Growth Restriction (IUGR); Fetal Outcome

The effect of Mediterranean diet pattern on telomere length changes



Sara Karbalaee, Zahra Mirrezaee, Mohammad Nosrati



Introduction:

Telomere length is known as a biomarker for measuring the aging process and the occurrence of chronic diseases. The Mediterranean diet, which is rich in antioxidant and anti-inflammatory compounds, helps reduce oxidative stress and inflammation, which are the most important causes of telomere shortening. The aim of this study is to investigate the effect of the Mediterranean diet on changes in telomere length in different studies.



Materials and methods:

This review includes a systematic search of articles in valid databases such as PubMed, Scopus and Google Scholar until November 2024. The inclusion criteria included original studies in English from 2015 onwards that investigated the effect of the Mediterranean diet on telomere length.





Conclusion:

The Mediterranean diet as a healthy nutritional pattern can help maintain telomere length and is considered as a way to reduce aging-related diseases, but more research is needed to determine the details of these effects.

Keywords:

Mediterranean diet, telomere length, aging, oxidative stress, inflammation



Results:

Evidence shows that following a Mediterranean diet can play a role in maintaining telomere length and reducing the rate of its shortening. Especially, this effect was more evident in women and people with high cardiovascular risk. Also, extra virgin olive oil was found to have a greater effect on reducing telomere degradation compared to other ingredients such as nuts.



The Role of Modern Technologies in Enhancing the Resilience and Sustainability of the Food Supply Chain under the Impact of Climate Change



Zahra Rahimi Torbati, Mehrnoosh Sadat Amirkalali Sijavandi, Parnian Pezashki



Introduction:

The global food system is under increasing pressure due to rapid population growth, climate change, and ongoing political and social disruptions. These challenges have intensified the need for innovative and sustainable solutions in food production. The aim of this study is to explore the future of food through the lens of sustainability, technological advancement, and consumer behavior.

Materials and Methods:

In this review article, databases including PubMed, Google Scholar, and ScienceDirect were searched using keywords such as “food sustainability,” “food security,” “climate-resilient supply chains,” and “alternative proteins.” Articles published between 2018 and 2025 were reviewed to identify trends, challenges, and solutions in modern food systems.





Results:

The review identified several key themes in future food systems, including the role of biotechnology in enhancing crop resilience, the development of alternative protein sources, digitization of supply chains for increased transparency, and the importance of reducing food waste. Studies also highlighted the significance of consumer acceptance and behavior in the successful implementation of food innovations.

Conclusion:

Creating a sustainable and resilient food system requires a multifaceted approach involving technological innovation, consumer engagement, and policy support. Advancements in biotechnology, supply chain management, and alternative food production methods, combined with a shift in consumer perception, have the potential to ensure food security, reduce waste, and improve nutritional outcomes globally.

Keywords:

Food Sustainability, Food Security, Alternative Proteins, Climate-Resilient Supply Chain, Food Waste, Biotechnology, Consumer Behavior, Future of Food





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