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The Role of Curcumin in Regulating Angiogenesis in Polycystic Ovary Syndrome: Mechanisms and Therapeutic Implications

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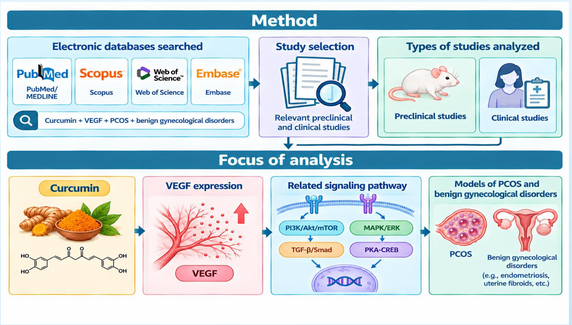
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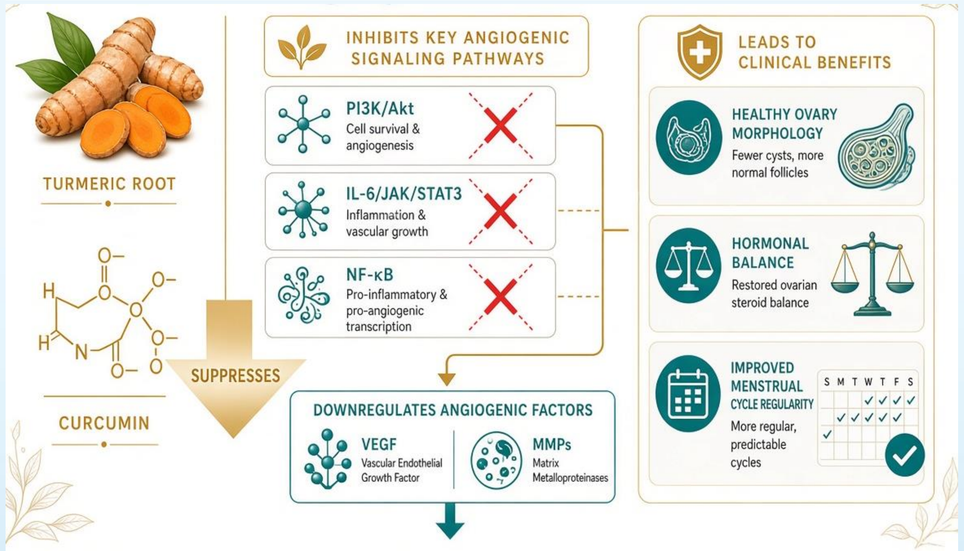
Backgrounds

Dysregulation of ovarian angiogenesis, driven by elevated vascular endothelial growth factor (VEGF), plays a pivotal role in the pathophysiology of polycystic ovary syndrome (PCOS) and its associated complications, including infertility. Curcumin, the primary polyphenol in turmeric, possesses anti-inflammatory, antioxidant, and anti-angiogenic properties and has been investigated as a potential therapeutic agent for PCOS. This review evaluates the therapeutic potential and molecular mechanisms of curcumin in modulating abnormal ovarian angiogenesis in PCOS.

Methods

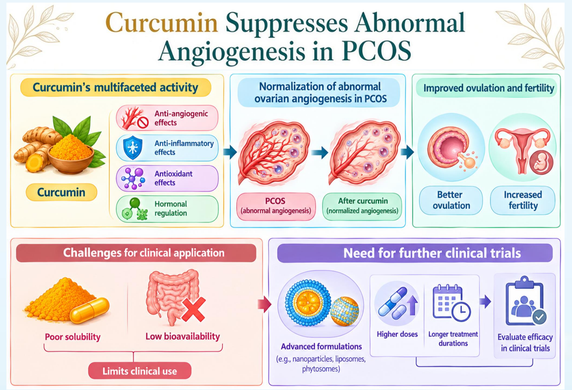


Findings



Studies indicate that curcumin suppresses abnormal angiogenesis by modulating angiogenic signaling pathways—such as PI3K/Akt, IL-6/JAK/STAT3, and NF-κB—downregulating pro-angiogenic factors like VEGFs, and inhibiting matrix metalloproteinases. Systematic reviews further confirm the beneficial effects of curcumin on hormonal and metabolic parameters, menstrual regulation, and the improvement of ovarian morphology and function in PCOS.

Conclusion



References

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