

# Prevention of Female Reproductive Disorders with the Help of Curcumin

Melese Asfaw\*

Department of Microbiology, University of Addis Ababa, Central Ethiopia, Ethiopia

## Editorial

Turmeric or *Curcuma longa* is a rhizomatous natural plant from the Zingiberaceae family. This plant is effortlessly found all through tropical Asia, including India and South China, Southeast Asia, Papua New Guinea and northern Australia. In Asian nations, turmeric is broadly utilized in food and medication as a characteristic shading and enhancing specialist at a focus scope of 5-500 mg/kg. Generally, turmeric has been utilized to treat stomach related messes, rheumatoid joint pain, conjunctivitis, liver disease, urinary lot contamination, smallpox, chickenpox, wounds and guideline of period. Turmeric has in excess of 300 naturally dynamic parts, for example, polyphenols, sterols, diterpenes, sesquiterpenes, triterpenoids and alkaloids. Turmeric rhizome contains countless polyphenols called curcuminoids, which involve Curcumin, demethoxycurcumin and bisdemethoxycurcumin. The yellow shade of turmeric is because of the substance of curcuminoids. Taking into account its high happy, curcumin is a very much concentrated on compound. Various examinations on Curcumin have exhibited its many advantages because of its cell reinforcement, calming, hostile to disease, against joint inflammation, against asthmatic, against microbial, against viral and against parasitic properties [1].

Curcumin is a hydrophobic particle known as diferuloylmethane, with the substance equation  $C_{21}H_{20}O_6$  and a sub-atomic load of 368.38. Three responsive practical gatherings not entirely set in stone in curcumin: one diketone moiety and two phenolic gatherings. Among the natural and substance responses of curcumin are hydrogen gift responses prompting oxidation of curcumin, reversible and irreversible nucleophilic expansion responses, hydrolysis, debasement and enzymatic responses [2].

Curcumin shows huge cancer prevention agent properties by breaking the chain response of free extreme creation. The capacity of curcumin to catch hydrogen peroxide is likewise higher contrasted and a similar focus of business cell reinforcements, for example, butylated hydroxyanisole, butylated hydroxytoluene and vitamin E. A meta-examination concentrate on additional upheld this finding by demonstrating a critical decrease of oxidative pressure markers, including superoxide dismutase, catalase, glutathione peroxidase and lipid peroxides after curcumin supplementation. Likewise, curcumin diminished the protein reactions engaged with aggravation processes, for example, those of cancer rot factor alpha, interleukin-1, IL-2, IL-6, IL-8 and IL-12. TNF- $\alpha$  is a huge middle person of irritation, which ultimately prompts constant infections. The presence of TNF- $\alpha$  initiates atomic element  $\kappa$ B and enhances the fiery reactions. Curcumin has been displayed to hinder the actuation of TNF- $\alpha$  in the NF- $\kappa$ B pathway and kill the receptive oxygen species, causing oxidative pressure. As oxidative pressure and irritation are ensnared in most persistent

sicknesses, curcumin supplementation could altogether offer different medical advantages [3].

Attributable to its restorative possibilities, different curcumin items have opened up in the market as tablets, containers, beverages, balms and beauty care products. The wide utilization of curcumin in India, Japan, Thailand, China, Korea, Malaysia, Pakistan and the United States raises the security level of curcumin utilization. Subsequently, the US Food and Drug Administration has marked curcumin as a "By and large Recognized As Safe" item. Besides, the Joint United Nations and World Health Organization Expert Committee on Food Additives and European Food Safety Authority suggested the everyday admission of 0-3 mg/kg body weight of curcumin. Furthermore, curcumin supplementation in a few clinical preliminaries exhibited great decency and wellbeing profiles at dosages somewhere in the range of 4000 and 8000 mg/day [4].

Be that as it may, the fundamental disadvantage of curcumin supplementation is its unfortunate bioavailability, which is described by its unfortunate retention, fast digestion and quick end. Ordinarily, curcumin is utilized in the liver and digestive organs. It is changed over into water-solvent metabolites and discharged in the pee. Oral organization of curcumin in rodents showed 40 percent discharge in the dung. Along these lines, different curcumin nanoformulations, for example, nanoparticles, liposome epitome, phospholipid edifices, primary analogs, subcutaneous infusion, effective application and hydrophilic transporter expansion have been acquainted with amplify their bioavailability and action and forestalling curcumin from hydrolysis inactivation. These nanoformulations work by improving curcumin molecule size, surface region, surface charge, hydrophobicity, as well as upgrading small digestive system pervasion. Besides, curcumin nanoformulations have been accounted for to increment ingestion more than 100-crease contrasted with the unformulated curcumin. For instance, curcumin has been figured out in a nano biocompatible structure to expand its water solvency and bioavailability. Co-organization of curcumin with piperine, an alkaloid in dark pepper, improves curcumin's bioavailability by up to 2000 percent. An orchestrated nanoparticle type of curcumin, theracurmin, showed good plasma focus after a solitary portion in sound controls and disease patients. Furthermore, the embodiment of curcumin in liposomes showed inhibitory impacts on endometrial malignant growth by prompting cell apoptosis, repressing cell expansion and restraining obtrusive and metastatic bioactivities. Because of the range of compelling definitions accessible these days, issues in regards to the unfortunate bioavailability of curcumin ought to as of now not be the essential concern. Thus, these curcumin nanoformulations have made a critical commitment to the drug business and have been shown to be useful in treating different human sicknesses [5].

## Conflict of Interest

None.

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\*Address for Correspondence: Melese Asfaw, Department of Microbiology, University of Addis Ababa, Central Ethiopia, Ethiopia, Tel: 9238606844; E-mail: melesedamte27@gmail.com

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Date of submission: 02 March, 2022, Manuscript No: antimicro-22-70252; Editor assigned: 04 March, 2022, PreQC No: P-70252; Reviewed: 09 March, 2022, QC No: Q-70252; Revised: 14 March, 2022, Manuscript No: R-70252; Published: 19 March, 2022, DOI: 10.37421/2472-1212.2022.8.266

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**How to cite this article:** Asfaw, Melese. "Prevention of Female Reproductive Disorders with the help of Curcumin." *J Antimicrob Agents* 8 (2022): 266.