

Complimentary approaches to metabolic syndrome: Opportunities and challenges

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Metabolic syndrome has become a worldwide health problem as it affects more than one third of the population and it sets the stage for catastrophic health problems, such as hyperglycemia, high blood pressure, dyslipidaemia, heart disease, and other age-related diseases. But as a matter of fact, till date in modern medicine there has not been a single drug molecule to mitigate these interrelated states of multiple disorders. Although Diet, exercise, and nutritional supplementation play a key role in its prevention and treatment but it is difficult for patients to follow a diet/exercise regime that would improve their symptoms therefore natural products identified from traditional medicinal plants present an exciting opportunity for the treatment of metabolic syndrome because they contain a wide range of phytochemicals with diverse metabolic effects. We have discovered following plants which were found to be of significant importance such as *Lagenaria siceraria* with *Trigonella foenum graecum* for hyperlipidemia, *Curcuma longa* with *piper nigrum* and *Allium cepa* in the treatment of glucose tolerance associated with excess dietary fat intake, obesity and type 2 diabetes due to better safety, tolerability and increased healthcare costs with conventional pharmaceuticals. Globally, with the advancement of modern medicine there has been a tremendous shift in expanding the horizons of availability of medications from traditional herbs as it has significant potential to deliver next generation medicines for metabolic syndrome with the ultimate goal of maximizing the opportunities and overcoming the challenges.

Biography

Ginpreet Kaur has completed her M Pharm (Pharmacology) from Delhi Institute of Pharmaceutical Science and research (DIPSAR), Delhi University and PhD from SPP SPTM SVKM NMIMS University. She is the author and co-author of 16 research and review papers, including three book chapters. She is a member of several professional societies and is presently serving on the Editorial Boards of several scientific journals. Dr. Ginpreet is the recipient of Dr. Ashok B. Vaidya Prize' and Dr.R.D. Kulkarni Prize" for presenting paper in International Conference Organized by South Asian Chapter of American College of Clinical Pharmacology.

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Bioadhesive vaginal drug delivery system

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The vagina, as a site for drug delivery, offers certain unique features that can be exploited in order to achieve desirable therapeutic effects. Considerable progress has been made in this research area over the past few years and, at present, the anatomy and physiology, microflora and secretions of the vagina are well understood. By contrast, the scientific knowledge regarding the possibilities of drug delivery via the vagina is limited. Currently available dosage forms have several limitations, therefore novel concepts and dosage forms are needed. In this field mucoadhesive polymers play a major role. This route coupled with bioadhesion phenomena has born fruitful results in delivering drugs both locally as well as systemically. Bioadhesive vaginal drug delivery system has been used for the treatment of local diseases affecting the vagina like candidiasis, STD, vaginal dryness etc. Also, research has demonstrated that drugs can be successfully delivered to systemic circulation via vaginal mucosa for treatment of various diseases like migraine, osteoporosis. Besides, this vaginal route has also been used for uterine targeting of drugs and in vaccination. The rational design of future formulations needs to include attention to vehicle properties that optimise vaginal coating and retention for a longer period of time.

Biography

Gurpreet Kaur did her Ph.D. from Department of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, Punjab, India. She is presently serving as Associate Professor in the Department of Pharmaceutics, Punjabi University, Patiala. She has 14 years of teaching and research experience. She has published 20 research papers, and has authored two books. Her main areas of research are colon targeting and bioadhesive drug delivery systems.

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