

# Pharmaceutical Science and Advanced Drug Delivery Systems

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## Role of natural substances in countering nonalcoholic liver damage in HIFA models

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**N**on-alcoholic steatohepatitis (NASH), the progressive form of non-alcoholic fatty liver disease (NAFLD), is emerging as the main health problem in industrialized countries. Lifestyle modifications are effective in the treatment of NAFLD; however, the long-term compliance is low. Therefore, several pharmacological treatments have been proposed but none has shown significant efficacy or long-term safety. Natural polyphenols are a heterogeneous class of polyphenolic compounds contained in vegetables, which are being proposed for the treatment of different metabolic disorders.

Although the beneficial effect of these compounds has traditionally related to their antioxidant properties, they also, exert several beneficial effects on hepatic and extra-hepatic glucose and lipid homeostasis. Furthermore, natural polyphenols exert antifibrogenic and antitumoural effects in animal models, which appear relevant from a clinical point of view because of the association of NASH with cirrhosis and hepatocellular carcinoma. Several polyphenols, such as anthocyanins, curcumin and resveratrol and those present in coffee, tea, soy are available in the diet and their consumption can be proposed as part of a healthy diet for the treatment of NAFLD.


Other phenolic compounds, such as silymarin, are commonly consumed worldwide as nutraceuticals or food supplements. Natural antioxidants are reported to have beneficial effects

in preclinical models of NAFLD and pilot clinical trials and thus need clinical evaluation. In this review, we summarize the existing evidence regarding the potential role of natural antioxidants in the treatment of NAFLD and examine possible future clinical applications.

### Speaker Biography

Tabinda Hasan is MBBS, MD, PGDHE (higher education), and PhD. (Anatomy), is an Assistant Professor at the Princess Nora bint Abdul Rahman University, Riyadh, Saudi Arabia. She has 12 years of teaching experience in anatomy and is proficient in Cadaveric Dissection and prosection, Video-based case construction in Problem-based learning, Research methodology, Research Ethics, Induced pluripotent stem cell culturing techniques, and Atomic force microscopy. She was awarded by Boston university school of medicine, USA (advancing ethical research award), Marie curie research award in anatomy for 2015 (with 5000 participants from over 80 countries), Stem cell unit, King Saud University, KSA (Effective scientific vocalizations); OSDOW 2011 nominee, Elsevier, Trieste-Italy (women in science for developing world), Faculty of Medicine & Health sciences, Saudi Arabia (excellence in Teaching award). She has headed the scientific committee for 3 consecutive years for the Medical Research Day international conference in Saudi Arabia. She is a renowned author, with 38 Journal publications and 95 citations, 36 conference presentations including Masseurchets -USA, California, Germany, Venice-Italy, Bulgaria, Malaysia, Korea, Greece, Dubai, Abu-Dhabi, Qatar, India, Saudi Arabia, Pakistan. She is a keen researcher and has served as principal investigator in several multinational research projects.

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