Joint Event on

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## Intranasal lipid nanocarriers systems for treatment of oxidative diseases

The objective of the current study was to assess the feasibility of nose to brain delivery of melatonin (MEL) using a lipidic nanocarrier (LNCs) for treatment of oxidative diseases. This carrier was chosen owing to its small size and biocompatible nature and is prepared using solvent-free phase inversion temperature technique. Design of experiment was used to establish D-optimal mixture design to study the impact of individual and combined effects of three independent variables; X1 (Oil), X2 (Surfactant), and X3 (Drug), on three LNCs responses; Y1 (particle size), Y2 (Polydispersity index) and Y3 (Zeta potential). MEL-LNCs were successfully prepared and characterized in terms of size, PDI and zeta potential. In-vitro drug release profiles and viscosity were assessed for the optimized LNCs. Results showed that all LNCs had a particle size ranging from 20-200 nm which was appropriate for intranasal permeability and brain targeting. They mostly exhibited narrow size distribution and a negative charge. They also exhibited a sustained release behavior. LNCs were shown to be a promising delivery system for possible nose to brain delivery of MEL.

## **Biography**

Eman A Bseiso is working as Assistant Lecturer in the Department of Pharmaceutics & Industrial Pharmacy, Faculty of Pharmacy, October 6 University in Egypt. She earned a Bachelor's degree in Pharmaceutical Science in 2010 and Master's degree in Phramaceutics from Faculty of Pharmacy, Ain Shams University in Egypt. Currently, she is pursuing her PhD in Pharmaceutical Technology, Faculty of Pharmacy from the same university. She has published many papers in reputed journals and her current research interests focuses on dermal & intranasal drug delivery systems by using polymers and surfactants to enhance the performance of the large and small drug candidates in addition to nanoparticle formulations for drug targeting (e.g. SLN, NLC & liposomes).

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