

16<sup>th</sup> International Conference and Exhibition on**OBESITY & WEIGHT MANAGEMENT**  
&**17<sup>TH</sup> WORLD FITNESS EXPO** November 13-15, 2017 | Atlanta, USA**Nanosized soy phytosome-based thermogel formulation for treatment of obesity, characterization and *in vivo* evaluation**Nermeen Magdy<sup>1</sup>, Shahira F El-Menshawe<sup>2</sup>, Adel A Ali<sup>2</sup> and Mohamed A Rabeh<sup>3</sup><sup>1</sup>Nahda University, Egypt<sup>2</sup>Beni-Suef University, Egypt<sup>3</sup>Cairo University, Egypt

Obesity has become an increasing problem over recent years. Nano lipo-vesicles hydrogels of soy saponin were formulated and evaluated in an attempt to reduce the size of adipose tissue cells through percutaneous absorption. Phytosome formulations were prepared with four different techniques: Solvent evaporation, anti-solvent precipitation, co-solvency and mechanical dispersion. Best formulae was selected by the means of the highest entrapment efficiency, minimum particle size and maximum drug release and then evaluated for successful complex formation by means of FTIR. Particles zeta potential was detected and particles shape was evaluated using TEM to insure particles spherical shape. Selected phytosome formulae was involved into selected hydrogel formulae after evaluation of different plain hydrogel formulations for its clarity, homogeneity, pH, gel transforming temperature and viscosity study. The obtained phytosomal hydrogel formulae were then re-evaluated for its clarity, homogeneity, pH and gel transforming temperature and for its rheology behavior and permeation study. *In vivo* study was done to ensure anti-obesity effect of soy phytosomal hydrogel. Concisely, soy phytosomal hydrogel was found to have the ability to reduce the size of adipose tissue cells in male albino rats.

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