

## REVIEWER'S REPORT

Manuscript No.: **IJAR-53000**

**Title: Novel Carrier for Enhanced Drug Delivery: A Review on Ethosomes**

### Recommendation:

**Accept as it is** .....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality			✓	
Clarity		✓		
Significance			✓	

Reviewer Name: Dr Aamina

### Reviewer's Comment for Publication.

The manuscript titled "*Novel Carrier for Enhanced Drug Delivery: A Review on Ethosomes*" offers a comprehensive and well-structured review of ethosomes as an emerging transdermal drug delivery system. The abstract clearly outlines the scope of the review, emphasizing key aspects such as ethosome composition, preparation methods, characterization techniques, therapeutic applications, and potential challenges. The manuscript successfully communicates the novelty and relevance of ethosomes in addressing limitations associated with traditional transdermal drug delivery systems.

The introduction provides a solid foundation for understanding the advantages of transdermal delivery, highlighting the physiological and pharmacokinetic benefits such as avoidance of first-pass metabolism, reduced gastrointestinal side effects, and improved patient compliance. The discussion is well-rooted in the current pharmaceutical context, acknowledging the challenges posed by the stratum corneum and the size and lipophilicity requirements for passive transdermal diffusion.

The section on ethosomes effectively describes their unique structural and functional attributes. The role of ethanol in disrupting the stratum corneum lipid organization and enhancing vesicle flexibility is clearly articulated. The explanation of their composition—phospholipids, ethanol, and water—along with a comparative analysis to conventional liposomes, helps delineate the superiority of ethosomes in terms of drug penetration, stability, and entrapment efficiency.

The description of ethosomes as both unilamellar and multilamellar vesicles, along with details on vesicle size variability and visualization techniques like transmission electron microscopy, adds to the technical depth of the review. The clarification that ethosomes can function under both occlusive and non-occlusive conditions further illustrates their versatility and robustness as a transdermal delivery system.

Overall, the manuscript provides a detailed, informative, and scientifically grounded discussion on ethosomes. It is an insightful and valuable resource for researchers and practitioners working on novel drug delivery technologies, particularly in the area of non-invasive transdermal therapies.

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