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Faculty of Pharmacy

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I. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science

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Design and development of a novel modified anti-microbial peptide (AMP) formula: evaluation of different parameters and risks influencing AMP effectiveness

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Antimicrobial peptides (AMPs) are small and diverse peptides which were isolated and developed due to the increasing resistance to conventional antibiotics [1]. In this work, we focused on most recently published researches that provide us with good knowledge in structural features, mechanism of action, therapeutic aim, advantages and limitations, chemical modification approaches and carrying strategies of AMPs. This gave an idea of the most effective structure and other desired physicochemical features of AMPs with the best performance to combat pathogens. In addition, recently published papers on different modification strategies and carrier systems further narrowed and specified our knowledge, and directed us on appropriate strategies in designing a high quality modified AMP formula with the most influence on bioavailability and antimicrobial activity enhancement. After performing the selected modification method of AMP, all the risk factors that influence the quality of AMP will be determined within the Quality by Design framework. The confirmation of successful modification will be performed by different physicochemical methods and followed by evaluation studies of antimicrobial activity of peptide. The final step is formulation of AMP in solid dosage form which again will be followed by an Ishikawa diagram for illustrating the factors affecting the quality of an AMPs containg drug delivery system [2].

References

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