ZIAUDDIN UNIVERSITY
FACULTY OF PHARMACY
PHARMAVISION
VOLUME 5 ISSUE 1
JULY 2024

EDITOR'S NOTE

DR. SADIA KASHIF *FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY*

It is with immense pleasure and pride that we present to you another edition of PHARMA VISION. In this edition, we aim to shine a spotlight on a tapestry of achievements, innovation, and inspiration that collectively define the spirit of our university community and the relentless pursuit of excellence that characterizes Ziauddin University. We extend our heartfelt gratitude to our readers, whose unwavering support fuels our passion. Your engagement and feedback serve as a constant source of inspiration, driving us to continually raise the bar in our pursuit of excellence. As always, we encourage you to share your thoughts and opinions with us. Your voices matter, and we are committed to amplifying them through the pages of our newsletter. Together, we continue to mould the legacy of Ziauddin University and its unwavering commitment to shaping compassionate, skilled, and visionary leaders.

PHYTOSOMES: AS A NOVEL DRUG DELIVERY SYSTEM

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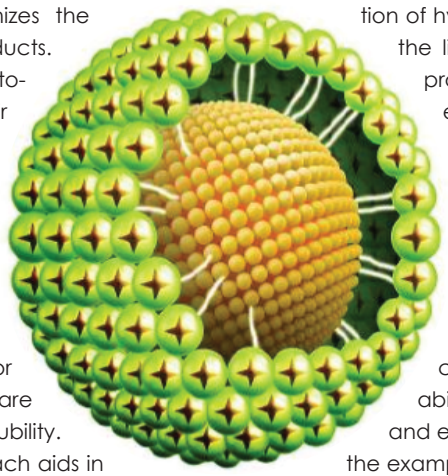
The increasing utilization of nutraceuticals and modern medicines led to the development of different advanced drug delivery systems, not only to improve bioavailability but also the safety and efficacy of sensitive plant-derived compounds. Amid these, phytosomes have arisen as one of the most emerging technologies, which revolutionizes the pharmacological aspect of natural products. This article is based on the world of phytosomes, their mechanisms of action, and their proposed applications in the healthcare system.



In plants, phytochemicals are present in abundance as bioactive compounds in the form of flavonoids, terpenes, polyphenols, and alkaloids. These compounds have huge pharmacological potential for different chronic healthcare issues but are found less bioavailable due to their low solubility. Phytosomes; A Novel Drug Delivery Approach aids in improving the solubility and absorption-related issues of phytochemicals by complexing them with phospholipids (phosphatidylcholine, phosphatidylethanolamine, or phosphatidylserine) by hydrogen bonding and forming distinctive bioavailable molecular structures, that impersonate the structure of phospholipid bilayer-membranes.

After the introduction of medicine into the body, its structural resemblance with the cell membrane allows phytosomes not only to increase the solubility of lipophilic drugs to make them available for absorption but also to promote the absorption of hydrophilic phytochemicals by merging with the lipid bilayer membrane of the cell by the process of fusion or lipid exchange. This enables the encapsulated active moiety to enter into the site of action to produce its desired therapeutic effect. According to the nature of specific phytochemicals, they act as antioxidants, anti-inflammatory, and antimicrobial.

Phytosomes are applicable in various domains including pharmaceuticals, nutraceuticals, and cosmeceuticals, due to their ability to increase the bioavailability, safety, and efficacy of polar phytoconstituents. Some of the examples include the development of a quercetin-phospholipid complex tested on rat-induced liver injury model showed that the formulation has better therapeutic efficacy than the parent molecule. phytosomes of curcumin and naringenin were formulated to improve absorption that leads to the increased antioxidant property. For the development of phytosomes with hepatoprotective action, phyto-

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chemicals were isolated from medicinal plants of the Himalayan region. Moreover, some phytosomes patent formulations are also available like phospholipid complexes of olive fruits or leaves extract, Ginko biloba derivatives for the treatment of asthmatic and allergic conditions, treatment of skin, and wound repair, with thymosin beta 4, etc.

CONCLUSION:

Phytosomes represent a paradigm shift in the realm of plant-based therapeutics, offering a potent solution to the challenges of poor bioavailability and absorption associated with phytochemicals. With their unique structure and mechanisms of action, phytosomes have revolutionized the delivery of natural compounds, unlocking their full therapeutic potential. As we continue to harness the power of phytosomes, the future of healthcare is undoubtedly brighter, with enhanced treatments and improved outcomes on the horizon.

REFERENCES:

1. Barani M, Sangiovanni E, Angarano M, Rajizadeh MA, Mehrabani M, Piazza S, Gangadharappa HV, Pardakhty A, Mehrbani M, Dell'Agli M, Nematollahi MH. Phytosomes as innovative delivery systems for phytochemicals: A comprehensive review of literature. International journal of nanomedicine. 2021 Oct 15:6983-7022.

2. Chivte PS, Pardhi VS, Joshi VA, Rani A. A review on therapeutic applications of phytosomes. Journal of Drug Delivery and Therapeutics. 2017 Sep 13;7(5):17-21.

FACULTY OF PHARMACY
LIST OF POSTGRADUATE STUDENTS (M. PHIL & PH.D.)
JULY - DECEMBER 2023

9-5/2019/001	Ms. Amna Saeed	MPhil - Pharmacology	29th August 2023
9-5/2017/005	Ms. Hania Fawad	MPhil - Pharmacy Practice	1st December, 2023
9-5/2018/007	Ms. Asma Sajid	MPhil - Pharmacy Practice	19th December, 2023
9-5/2018/005	Ms. Sana Bibi	MPhil - Pharmacy Practice	20th December, 2023
9-5/2015/011	Aysha Malik	MPhil - Pharmacy Practice	21st December, 2023

9-4/2018/003	Dr. Syed Shafqat Ali Shah	Ph.D. Pharmacognosy	**22nd August 2023**

FACULTY OF PHARMACY EVENTS

MOU WITH PHARMACEUTICAL INDUSTRY

An MOU was signed between FOP, Ziauddin University and ATCO Laboratories Pvt. Ltd. on 9th August 2023 for a period of five years in the presence of Dr Zulfiqar Ali Umrani, Director ORIC, ZU. The primary objective of this MOU is to create a means for cooperative efforts between ATCO Laboratories Ltd. and FOP, ZU, to affect the academic interchange of faculty and students, and academic and research information between the two organizations.

EVENTS

INTERNATIONAL COLLABORATION OF FOP- ZU WITH THE UNIVERSITY OF SUNDERLAND, UK

University of Sunderland, UK, sponsored the event (Lab on a Poster II). Representatives of the University of Sunderland appreciated the efforts of our students and faculty members in organizing the exhibition and classified this event as Mega Event.

LAB ON A POSTER-II EXHIBITION HELD BY FOP, ZIAUDDIN UNIVERSITY

Lab on Poster-II was arranged on 9th August 2023 in sequence with Poster-I held last year. The students presented 50 projects. Judges from different Pharmaceutical Industries, Hospitals and Academia evaluated the projects. Chief Guest Mr. Saeed Allawala, Chairman ATCO Laboratories Ltd. and Softronic Systems (Pvt.) Ltd., awarded five cash prizes to the winning students of each year, and a bonus was also awarded to the best of these five projects.

MOU WITH PAKISTAN PHARMACEUTICAL MANUFACTURERS ASSOCIATION (PPMA)

An MOU was signed between FOP, Ziauddin University and PPMA on 4th December, 2023 in the presence of Capt. (Retd) Syed Waqar Hussain, Registrar ZU, Prof. Dr Nudrat Fatima, Dean FOP, ZU, Prof. Dr Anwar Ejaz Beg, Advisor to Chancellor, Dr Zulfiqar Ali Umrani, Director ORIC, ZU and Mr. Adnan Hirani, Chairman (South), PPMA.

EVENTS

PHARMAFEST

Ziauddin Faculty of Pharmacy celebrated PHARMAFEST to celebrate World Pharmacist Day on 25th September 2023. The theme of Pharmacist Day 2023 is "Pharmacy Strengthening Health System".

CHAMPIONSHIP TOURNAMENT

Team of the Faculty of Pharmacy won Runner up trophy in the Boys Cricket Championship Tournament organized by the Office of Student Affairs (Sports division). It was a much-anticipated event that had the crowd on their feet.

PICNIC AT TURTLE BEACH

LUNCH AT CLOCKTOWER

CHARACTER DAY

ANNUAL DINNER

SESSION ON HALOPHYTES AS A SOURCE OF MEDICINE

A session entitled "Halophytes as a Source of Medicine" was arranged on 27th October, 2023 by the Department of Pharmacognosy. Dr. Salman Gulzar from University of Karachi was the guest speaker.