

Volume 2

Edited by

MUHAMMAD TAHER

QAMAR UDDIN AHMED



**HUM** Press

#### First Print 2018 ©IIUM Press, IIUM

IIUM Press is a member of the Majlis Penerbitan Ilmiah Malaysia – MAPIM (Malaysian Scholarly Publishing Council)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Current Issues in Pharmacy. Vol. 2 / Editors Muhammad Taher, Qamar Uddin Ahmed

Includes index

ISBN 978-967-418-454-4

- 1. Pharmacy. 2. Pharmacy--Practice. 3. Pharmaceutical industry.
- 4. Pharmaceutical research. I. Muhammad Taher.
- II. Ahmed, Qamar Uddin.

615

Published in Malaysia by IIUM Press

International Islamic University Malaysia P.O. Box 10, 50728 Kuala Lumpur, Malaysia Tel: +603-6196 5014; Fax: +603-6196 4862/6298

Printed in Malaysia by
PERNIAGAAN NORMAHS
No. 3, 5 & 7, Jalan 12/10
Taman Koperasi Polis Fasa 1
68100 Mukim Batu
Kuala Lumpur

# Contents

	Figures Tables Preface	ix xiii xv
CHAPTER 1	Introduction: Current Issues in Pharmacy Qamar Uddin Ahmed and Muhammad Taher	1
	SECTION 1: PHARMACY PRACTICE	
CHAPTER 2	Potentially Inappropriate Medications (PIM) in the Among Elderly: What Can be Done?  Mohd Shahezwan Abd Wahab, Aida Azlina Ali and  Noordin Othman	7
	SECTION 2: PHARMACOGNOSY/MEDICINAL PLANT THERAPY	-
CHAPTER 3	Anticancer Potential of Flavonoids: Polyphenols that May Cure Qamar Uddin Ahmed, Aina Nazira Abdul Halim, Muhammad Taher, Siti Zaiton Mat So'ad and Jalifah Latip	21
CHAPTER 4	Mimosa pudica: A Weed with Medicinal Importance Qamar Uddin Ahmed, Tasnuva Sarwar Tunna, Jalifah Latip and Md. Zaidul Islam Sarker	63
CHAPTER 5	Health Benefits of Omega-3 in Cardiovascular Disease Muhammad Taher, Nur Fathanah Mohd Ali, Deny Susanti, Qamar Uddin Ahmed and Tengku Muhamad Faris Syafiq	91

### Contents

CHAPTER 6	Antioxidant Property of Green Tea Catechins as Neuroprotection in the Brain Muhammad Taher, Afiqa Jamil, Deny Susanti, Qamar Uddin Ahmed and Tengku Muhamad Faris Syafiq	109
CHAPTER 7	Microsponge: A Potential Delivery System for Salicylic Acid in Treating Acne Hazrina Hadi, Nurul Namira Azillah and Qamar Uddin Ahmed	127
CHAPTER 8	Exploring the Tropical Plant Wealth: Skin and Hair Benefits Hazrina Hadi, Nurul Shazwani Abdullah and Qamar Uddin Ahmed	149
CHAPTER 9	Alzheimer Disease: Gene Therapy and Natural Product Research Abd Almonem Doolaanea and Farahidah Mohamed	175
CHAPTER 10	A Concise Review of Malaysian Medicinal Plants with Antidiabetic Activity Fatima Opeyemi Roheem, Siti Zaiton Mat So'ad and Qamar Uddin Ahmed	199
CHAPTER 11	Chromolaena odorata (L.): A Weed of High Medicinal Value Qamar Uddin Ahmed, Nur Ameezah Samuil and Muhammad Taher	223
CHAPTER 12	Annona muricata: A Potent Anticancer Plant Siti Zaiton Mat So'ad, Farah Athirah Wahairi and Qamar Uddin Ahmed	248

## Contents

	SECTION 3: PHARMACEUTICAL TECHNOLOGY	
CHAPTER 13	Role of Osmosis in Routine Life Saifullah Khan, Farman Ullah Khan and Muhammad Taher	265
CHAPTER 14	Cosmeceutical Applications of Clay Minerals: A Review Hazrina Hadi, Muhammad 'Izzuddin Zamery and Ahmad Zaiter	275
	SECTION 4: BASIC MEDICAL SCIENCES	
CHAPTER 15	The Beneficial Effect of Coffee Consumption in Type 2 Diabetes Mellitus  Nur Masyitah Yusof and May Khin Soe	297
CHAPTER 16	Zumba as the Selected Physical Activity in Managing Type 2 Diabetes Mellitus Muhammad Azrai Rozali and May Khin Soe	325
	Contributors	341
	Index	345



The field of pharmacy consists of many disciplines of pharmaceutical sciences particularly pharmacy practice, pharmaceutics, pharmacology, molecular biology, pharmacognosy and medicinal chemistry. Pharmacy is involved in a wide array of pharmaceutical research and education, too. Pharmacy practice research focuses on the areas of pharmacogenetics, pharmacokinetics and pharmacodynamics. It also covers the inter-relationship between these areas in different ethnic groups, as well as methodological issues on pharmacoeconomics. Clinical and applied research is conducted on studies that are supposed to improve patient outcomes and could have a favourable impact on pharmacy practice and service. Pharmaceutics research is concerned with drug formulation, stability, and delivery science, and also works on medical devices. Medicinal chemistry research is mainly focused on pharmaceutical chemistry, drug discovery and compound library, and receptor biology. Pharmacology research works on molecular and cellular mechanisms of disease states and associated pharmacology, as well as a range of toxicology research.

MUHAMMAD TAHER, is currently working as an associate professor at the Department of Pharmaceutical Technology, Kulliyyah of Pharmacy, International Islamic University Malaysia. He is actively involved in Natural Products research. His research interest is to isolate characterize phytochemicals from plant, animal and marine sources. He uses different cell lines in drug discovery to evaluate several bioactivities such as antidiabetic, antiobesity, anti-inflammatory, cytotoxic and wound healing. He has published a number of articles in several journals related to his area.

QAMAR UDDIN AHMED, is currently working as an associate professor at the Department of Pharmaceutical Chemistry, Kulliyyah of Pharmacy, International Islamic University Malaysia. His core responsibilities are to teach and research associated with organic chemistry, medicinal chemistry and pharmacognosy disciplines. His current research interests are the synthesis of medicinal active compounds and isolation and characterization of biological active substances from medicinal plants. He has won many research awards while working at IIUM. Dr. Ahmed's research findings have appeared in several international peer-reviewed ISI & Scopus indexed journals. He is also the *editor-in-chief* of *Current Issues in Pharmacy*.



#### **IIUM Press**

Tel: +603 6196 5014 / 6196 5004 Fax: +603 6196 4862 / 6196 6298 Email: iiumbookshop@iium.edu.my Website: http://iiumpress.iium.edu.my/bookshop

