Clinical PHARMACY

Practice



Dr. Kumaraswamy Gandla Dr. K. C. Arul Prakasam Dr. P. Siva Kumar Mr. Tarun Chaudhary Dr. M. Sri Ramachandra



Dr. N. SENTHIKUMAR,

ANNAI IKK SAMPOORANI AMMALCOLLEGE OF PHARMACY
ETHIRMEDU, KOMARAPALAYAM - 638 183.

NAMAKKAL DISTRICTTAMILINADU.

Clinical Pharmacy Practice

Dr. Kumaraswamy Gandla Dr. K.C. Arul Prakasam Dr. P. Siva Kumar

Mr. Tarun Chaudhary Dr. M.Sri Ramachandra





walnutpublication

INDIA • UK • USA

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, recording or otherwise, without the prior written permission of the authors.

This book has been published with all reasonable efforts taken to make the material error-free after the consent of the authors. The authors of chapters are solely responsible and liable for its content including but not limited to the views, representations, descriptions, statements, information, opinions and references ["Content"]. The publisher does not endorse or approve the Content of this book or guarantee the reliability, accuracy or completeness of the Content published herein. The publisher and the authors make no representations or warranties of any kind with respect to this book or its contents. The authors and the publisher disclaim all such representations and warranties, including for example warranties of merchantability and educational or medical advice for a particular purpose. In addition, the authors and the publisher do not represent or warrant that the information accessible via this book is accurate, complete or current.

Paperback ISBN: 978-93-5574-143-1

First Published in March 2022

Published by Walnut Publication (an imprint of Vyusta Ventures LLP) www.walnutpublication.com

USA

6834 Cantrell Road #2096, Little Rock, AR 72207, USAV HINGUMA

India

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION ANNALIKK SAMPOGRANI AMMALCOLLEGE OF PHARMACY, ETHIRMEDU, KOMARAPALAYAM - 638 183,

#625, Esplanade One, Rasulgarh, Bhubaneswar – 751010, India

#55 S/F, Panchkuian Marg, Connaught Place, New Delhi - 110001, India

UK

International House, 12 Constance Street, London E16 2DQ, United Kingdom



Contents

Unit - 1	1
Unit - II	5
Unit - III	32
Unit - IV	51
Unit - V	77
Unit - VI	93



Dr. N.SANTHALRUMAR,
PRINCIPAL,
PRINCIPAL,
IKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI IKK SAMPOORANI AMMALCOLLEGE OF PHARMACY,
ANNAI IKK SAMPOORANI AMMALOLLEGE OF PHARMACY,
ETHIRMEDU,KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT.TAMILNADU.

Clinical pharmacy practice book deals about definitions, scope, development of clinical pharmacy and its services ,patient date and practice skills, different laboratory tests used in the evaluation of disease states, and pharmacoepidemiology, Pharmacoeconomic and its types of economic evaluation, and it covers about theoretical basis for Therapeutic drug monitoring.



Dr. Kumaraswamy Gandla

Dr. Kumaraswamy Gandla (M.Pharm., Ph.D.) currently working as Professor and Head, Department of Pharmaceutical Analysis at Chaitanya Deemed to be University, Warangal, Telangana, India. He has published more than 15 patents, 127 Research articles in national and international journals and also has presented & attended several national and International Conferences. He guided more than 50 students B.Pharm. & M.Pharm. and few Research Scholars pursuing Ph.D. under his supervision. He is an Editorial board member and regular reviewer in the editorial board for 57 national, International journals and also life member of Association of Pharmaceutical Teachers of India (APTI) and The Indian Pharmaceutical Association (IPA).



Dr. K.C. Arul Prakasam

Dr. K.C. Arul Prakasam working as a professor Department of Pharmacy practice, JKKMMRF's-Annai JKK Samporani ammal College of Pharmacy, Komarapalayam. B.Pharm completed in 1998, M.Pharm completed in 2007 at the Tamil Nadu Dr. MGR Medical University, Chennai. Ph.D. completed in 2021 at PRIST University, Thanjavur. He has 25 M.Pharm projects & 9 Pharm D projects Guided. He has published more than 40 research papers in international and National reputed journals. He acts reviewer & editorial board member in several journals. He life a member of APTI, IACP & ACPI.



Dr. P. Siva Kumar

Dr. P. Siva Kumar completed his B.Pharm from The TN. Dr. M.G.R Medical University, Chennai in 2005, M.Pharm (Pharmacy practice) in 2007 from Annamalai University, Chidambaram, Tamilnadu. He was awarded Ph.D by SunRise University, Alwar, Rajasthan, India in 2019. Presently, he is working as a Professor cum HOD, Department of Pharmacy Practice in Prime College of Pharmacy, Palakkod, Kerala, India. He has guided 12 M.Pharm and 15 Pharm.D students. Scholars are carrying out their research projects under his supervision. He has an experience of about 14 yrs in teaching and research in pharmaceutical science. He has published 14 research papers in national and international journals.



Mr. Tarun Chaudhary

Mr. Tarun Chaudhary is currently working as lecturer in Dehat Vikas College of Pharmacy Tigaon, Faridabad Haryana (Dehat vikas educational society). He has started his professional journey from East West College of Pharmacy Bangalore in the year 2006. He has done his M.Pharm in Pharmaceutical Chemistry and is also pursuing his PhD in Pharmaceutical Sciences from Institute of Pharmaceutical Research GLA UniversityMathura under the guidance of Dr. Prabhat kr.upadhyay Associate professor,GLA university Mathura –281406 (Uttar Pradesh) India. He has 15 years of experience in teaching as a lecturer. He is a life member of various professional bodies like the Association of Pharmaceutical Teachers in India. He is a registered pharmacist at the Haryana State Pharmacy Council. He has published a number of research and review papers in reputed journals. He has published a number of pharmaceutical chemistry books.



Dr. M. Sri Ramachandra

Dr. M. Sri Ramachandra, M.Pharm, Ph.D., working as Head of the Department, Associate Professor of Pharmacology at Bhaskar Pharmacy College, Yenkapally (V), Moinabad, Hyderabad since 2009. He started his career after M.Pharm in 2008 as Lecture in CES College of Pharmacy, Kurnool, and in Srinivasa Inst of Pharmaceutical Sciences and Research in Vikarabad. He Published 20 research and review publications in UGC, Scopus indexed Journals and presented around 10 papers in National and International Conferences. He is a Life Member in Association of Pharmaceutical Teachers in India (APTI). He has one Indian patent publication.







Dr. N. SENTHLHUMAR,
PRINCIPAL,
PRINCIPAL,
IKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION.
ANNAI JKK SAMPOORANI AMMALCOLEGE OF PHARMACY.
ANNAI JKK SAMPOORANI AMMACOLE



Raja Rammohun Roy National Agency for ISBN Department of Higher Education, Ministry of Education



Government of India

Recently P	ואוואוופ	a Books								
Book Title				Email						
Name of Author				Mobile			J	do not add 17 a	n starting digit	
Name of Publisher / Registrant				Publish Year						
ISBN Number		9789355741431		Issue Date	From Date	To Date				
SI No. Book Title	Name of		Author	Street	Product	Product		ISBN		
. Clinical	Registrat	nt Publisher			Composition	form	Langu	age No.	ISSUE Date	
Pharmacy Practice	Trisha Priya	Vyusta Ventures LLP	Prakasam Dr. P	my Gandla <mark> Dr. K.C. Arul</mark> P. Siva Kumar, Mr. Tarun M.Sri Ramachandra	Single-component retail product	Paperback /	English	978-93- 5574-	21/02/2022	



Dr. N.SENTHILKUMAR, PRINCIPAL

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY ETHIRMEDU, KOMARAPALAYAM - 638 183. NAMAKKAL DISTRICT, TAMILNADU, INDIA.