



## **Hepato-protective Agents -**

# Pharmacists Educational Program



## Schedule

#### Module 1

Watching out for liver damage among patients: Role of pharmacists

Prof. Supatat Chumnumwat



#### **Learning Objectives**

- 1. Understand the role of pharmacists in medication safety.
- 2. Describe the functions of the liver and its role in drug metabolism and elimination.
- Recognize and identify common liver diseases that pharmacists should be familiar with.
- 4. Identify patients with hepatic impairment and risk factors for liver disorders.
- 5. Develop a risk stratification plan for patients with liver disorders.
- 6. Describe the key considerations for referring patients with hepatic impairment to physicians.

#### Module 2

Disease pathology and the evolving role of oxidative stress in liver disease

Dr. Aldo Torre Delgadillo



#### **Learning Objectives**

- 1. Define oxidative stress and its relevance to liver diseases.
- 2. Explain the concept of free radicals and their role in oxidative stress.
- 3. Discuss the relationship between oxidative stress and cellular damage to the hepatocyte.
- 4. Describe the clinical definition of acute liver injury and its causes.
- 5. Evaluate the role of glutathione as a hepatoprotective agent.
- 6. Outline the natural history of liver disease and the stages of progression.
- 7. Identify strategies to counteract oxidative stress in the liver, including reducing exposure to toxic insults, replenishing endogenous antioxidants, and integrating the diet with exogenous antioxidants.
- 8. Recognize signs and symptoms of liver toxicity.
- 9. Identify patients at risk for hepatotoxicity and develop referral strategies to ensure appropriate management and follow-up.

#### Module 3

Drug Induced Liver Injury: Risk factors, pathogenesis, clinical features and patient education

Dr. Chalermrat Bunchorntavakul



Thailand

#### **Learning Objectives**

- 1. Define drug induced liver injury (DILI) and describe the two mechanisms by which it occurs: Intrinsic and Idiosyncratic
- 2. Recognize the clinical signs and manifestations of DILI, including jaundice, and differentiate them from other hepatobiliary disorders
- 3. Identify and counsel patients on the risk factors for DILI, including common drugs and diseases that can cause hepatobiliary dysfunction and DILI, herbal and food supplements as a growing cause of hepatoxicity, drug overload in politreated patients, and specific subgroups such as the elderly
- 4. Discuss drug and medication counseling strategies for potential hepatotoxicity

#### Module 4

Alcoholic Liver Disease: Etiology, pathogenesis and patient education

Dr. Therese Macatula



Philippines

#### **Learning Objectives**

- 1. Define alcohol use disorder, alcoholic liver disease, and alcoholic hepatitis and describe their clinical features and manifestations.
- 2. Identify the potential health risks associated with drinking alcoholic beverages, including binge drinking and alcohol abuse.
- 3. Understand the symptoms and behaviors of patients with alcohol use disorder and learn how to identify patients who are at risk.
- 4. Describe the strategies and interventions that pharmacists can use to help patients reduce their alcohol dependency and improve their life expectancy and quality of life.
- 5. Develop effective counseling strategies for patients with alcohol use disorder.

#### Module 5

Fatty Liver Disease: Risk factors, patient education and management

Prof. Yeong Yeh Lee

Malaysia

#### **Learning Objectives**

- 1. Define non-alcoholic fatty liver disease (NAFLD) and distinguish between its two subtypes, nonalcoholic fatty liver (NAFL) & nonalcoholic steatohepatitis (NASH), and understand the epidemiology of NAFLD and the new definition of metabolic dysfunction- associated fatty liver disease (MAFLD).
- 2. Understand the pathomechanisms of NAFLD and the correlation between fatty liver and metabolic dysregulation.
- 3. Identify risk factors for NAFLD, including lifestyle factors, comorbidities, and respective drug treatment.
- 4. Discuss management strategies for NAFLD, including removing the cause, treating comorbidities, and promoting lifestyle changes.
- 5. Discuss preventive strategies for NAFLD, including early identification and intervention to reduce or slow disease progression.
- 6. Develop a counseling strategy for patients with NAFLD, including cross-referral to appropriate specialists.

#### Module 6

Role of antioxidants and hepato-protective agents in liver disease

Dr. Frederick Dy

Philippines

#### **Learning Objectives**

- 1. Understand the weight of hepatic disease burden and the consequences of chronic liver disease.
- 2. Identify the etiology of various liver diseases and how it influences specific treatment options.
- 3. Explain the role of oxidative stress in the development of progressive liver diseases.
- 4. Analyze the effects of different antioxidants on the healing of hepatic necroinflammation.
- 5. Develop a comprehensive understanding of the relationship between oxidative stress and chronic liver disease, including the pathophysiology and mechanisms involved.
- 6. Evaluate the potential benefits and limitations of antioxidant therapies in the treatment of liver diseases, and their effect on patient outcomes.

## **Prof. Supatat Chumnumwat**

Assistant Dean for Academic Affairs Faculty of Pharmacy, Mahidol University, Thailand

Asst. Prof. Supatat Chumnumwat is a board-certified pharmacotherapy specialist (BCPS) with over a decade of experience in pharmacology. He currently serves multiple roles at Mahidol University, including Assistant Dean for Academic Affairs, Director of the Residency Program, and Assistant Professor at the Faculty of Pharmacy. In addition to his professional experience, Asst. Prof. Chumnumwat has extensive teaching experience in undergraduate and graduate programs in clinical pharmacy, pharmaceutical care, therapeutic drug monitoring, research methodology, and biostatistics.

## **Dr. Aldo Torre Delgadillo**

Guest Investigator and Researcher, Metabolic Unit and Gastroenterology Department Salvador Zubirán National Institute of Health Sciences and Nutrition (INCMNSZ), Mexico

Dr. Aldo Torre Delgadillo is a medical professional specializing in
Gastroenterology and Hepatology. He has been a Level II
member of the National System of Investigation since 2008 and
is also a Research Associate at the Metabolic Unit and
Gastroenterology Department of the National Institute of Medical
Sciences and Nutrition, Salvador Zubirán. He has co-authored over 27 peer-reviewed
articles and participated in 4 clinical trials in the past 15 years.



### Dr. Chalermrat Bunchorntavakul

Associate Professor of Medicine, Division of Gastroenterology and Hepatology, Rajavithi Hospital, Ministry of Public Health, Thailand

Dr. Chalermrat Bunchorntavakul is an Associate Professor of
Medicine and Medical Doctor at the Division of Gastroenterology
and Hepatology, Rajavithi Hospital, Thailand. He has authored
over 30 peer-reviewed papers on a range of Gastrointestinal and
liver diseases. With over 17 years of experience in Gastroenterology
and Hepatology, he has contributed to several international textbook chapters and
participated in numerous clinical trials and was a respected invitee at various
international meetings. He serves on the editorial boards of the Journal of Clinical and
Translational Hepatology and has won many awards, including the Outstanding Young
Gastroenterologist Award 2021 by The Gastroenterological Association of Thailand.



Faculty, Ateneo de Manila School of Medicine and Public Health Consultant and Reviewer for Internal Review Board, The Medical City, Manila, Philippines

Dr. Therese Capalongan Macatula is a gastroenterologist and active consultant at The Medical City and ARDI Clinics. She is a member of the Philippine Medical Association and a fellow of the Philippine College of Physicians, Philippine Society of Gastroenterology, and Philippine Society of Digestive Endoscopy.





**Prof. Yeong Yeh Lee** 

Professor of Medicine and Senior Consultant (Gastroenterology, Hepatology and Internal Medicine), School of Medical Sciences, Universiti Sains Malaysia, Malaysia

Dr. Yeong Yeh Lee is a Professor of Medicine at the School of
Medical Sciences, University of Science, Malaysia and a Senior
Consultant of Gastroenterology and Hepatology at Hospital
University of Science, Malaysia. He specializes in
Neurogastroenterology & Motility, Gastroenterology, Hepatology,
and Internal Medicine and has been awarded several on-going grants in these fields.
Dr. Lee is currently the President of the Malaysian Society of Gastroenterology &
Hepatology (MSGH). Dr. Lee has published more than 300 publications and has been awarded "Top Research Scientist 2018" by the Academy of Sciences Malaysia.

## Dr. Frederick Dy

Asst. Professor (Faculty of Medicine and Surgery)
Section Chief (Gastroenterology) and Head (Endoscopy Unit,)
University of Santo Tomas, Manila, Philippines.

Dr. Frederick Dy is a gastroenterologist working at the University of Santo Tomas Hospital in Manila, Philippines. He is currently an assistant professor at the Department of Medicine, University of Santo Tomas in Manila, Philippines. He was the past president of the Philippine Society of Gastroenterology. Presently, he is the Chief and the Head of the Endoscopy Unit and Section Chief of Gastrointestinal Oncology at the University of Santo Tomas Hospital.



## **About Federation of Asian Pharmaceutical Association- College of Pharmacy (FAPA-CP)**

Established in the year 1964, the Federation of Asian Pharmaceutical Associations was founded as a non-profit organization that serves worldwide, with its headquarters based in Metro Manila, Philippines. With the mission of becoming the leading organization that guides Asian pharmacists and pharmacy organizations to attain professional distinction, FAPA diligently aims to contribute toward making medicines accessible, affordable, safe, and effective. One of the foremost objectives of this federation is to devise and promote professionalism in the pharmaceutical arena in Asia, largely by building cooperation between national and regional associations while emphasizing the need for upholding the rights of pharmacists. The primary initiative taken by the federation to achieve this is by establishing partnerships with prestigious organizations including the likes of WHO and International Pharmaceutical Federation (FIP). Uplifting pharmacy education, organizing professional and scientific meetings, adopting good pharmacy practices, and updating the community about the latest scientific trends are some of the diverse schemes developed by FAPA to achieve its mission.

## **About Omnicuris**

Omnicuris is a social enterprise powered by RMP Atal Innovation Mission, Niti Aayog. Since 2016, Omnicuris has been a one-stop online learning destination for Healthcare professionals, globally impacting patient care and outcomes, through evidence-based, unbiased, and cutting-edge scientific content. Omnicuris has been engaged by the Central and various other State Governments, Medical Associations, and Councils, and State Universities to improve the quality of healthcare through the Continuous Professional Development (CPD) of public and private healthcare providers across 45 Medical Specialties. We have an enduring partnership with over 150 Medical Institutes, affiliated with top Universities and over 140 Medical Associations, continuing to partner with many more.

We are the Exclusive Online Credit point(s) offering partner to the HCPs in India. Our content receives Accreditation with 28 Indian State and Union Territory Medical Councils, and endorsement by State Governments has revolutionized the Learning and Accreditation needs of around 3 Lakhs HCPs on our platform, making us India's largest online platform for doctors.

Omnicuris is also accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) and is also recognized in 27 Countries.

Our Mission is to improve Clinical and Patient outcomes by bringing together the best medical Institutes and resources in India along with International Universities/Associations/Institutes from across the United States of America (USA), Europe to Australia for offering Global best practices and resources to our doctors.













