

## WORKSHOP ON THE TOPIC “PHARMACEUTICAL CARE” & “Role of PharmD in Indian Health Care” On 17-06-2022

A case study seen by the Internal Medicine, Neurology, Intensive care and Infectious diseases team, analyse it in detail and explain to students practically how to analyse a case study, identify and resolve Medication Errors/ Drug Related Problems. I worked on this case and made 8 significant interventions. It involves all the categories of DRPs seen in clinical practice and clearly shows the crucial role of Pharm.D/Clinical Pharmacist.

Participants: 4,5,6-PharmD and PharmD (P.B), 1 & 4<sup>th</sup> Sem M.Pharm, Staff of Departments Pharmacy Practice and Pharmacology- 120 Participants











**Dr. Karthik Rakam Pharm. D (<https://www.avenidapro.com/>)**

Dr. Karthik Rakam is a Pharm. D graduate from the first batch of Pharm. D in India (2008 -2014). He has co-founded **Avenida Innovations** with two verticals: Avenida Academy and Avenida Practice. **Avenida Academy** partners with individuals and institutions and help them in their pursuit of professional excellence. **Avenida Practice** offers clinical pharmacy services, continuum of care and provides chronic diseases management solutions. As CEO of Avenida Innovations, Dr. Karthik was instrumental in creating opportunities for students by making MOUs with industry partners. In 2022 Dr. Karthik has co-founded **Kairos R and D solutions** as an SMO with a vision to scale it to a CRO. He previously founded Pharm.Doctors and Pharmacon Society for Pharmacy Practice. He also works as **Medical Advisor** for **Arintra, Inc**, a Y Combinator backed start-up in the USA. In May 2020 he was inducted into the core group of Punjab Telemedicine Expert committee. He is also an Advisor – Clinical Pharmacy at Jiyyo. Dr. Karthik provides Clinical Pharmacy Services at various clinics.

He is trained to work as a **Clinical Pharmacist** in a tertiary care centre. He has designed optimal therapeutic regimens in complicated cases of TB, HIV. He has expertise in individualization of dose in renal and hepatic impairment. He has the ability to provide Drug Information to healthcare professionals. He can analyse patient case sheets and make interventions. He made 85 interventions during the internship. He can check the prescription for clinically significant Drug Interactions, ADRs and make adjustments. He has the ability to counsel patients about the disease, drug therapy and prevention. He is experienced in providing clinical pharmacy services like Prescription audit, IV admixtures preparation, ADR prevention and management.

He is a Resource person for **Pharmacy Academia**, an educational initiative by **PFIZER** to impart training to practising pharmacists. He is Resource person for CPE programs for Community and Hospital Pharmacists, Faculty Development Programs and Refresher Courses for Faculty. He won the **FIP Global Symposium 2021** on AMR, attended by 479 participants from 71 countries. He is the **Winner of National level case study competition** conducted by IPA on the occasion of World Pharmacist Day 2015. Subsequently he went on to become the **judge** of the same competition in 2018. He is the evaluator of various events conducted by IPA. He is **Author of Drug Watch**; a column dedicated to Adverse Drug Reactions in IPA-CPD E times. As a member of IPA CPD Special Interest Group, he is involved in initiatives like TB Jan Andolan, AMR, **FIP – India Vaccination Project** etc.

Dr. Karthik conducts various skill development courses like Evidence Based Pharmacotherapy, CR/PV/CDM/Medical Writing, Informatics etc. He also provides Clinical Pharmacy Internships targeted at implementing Clinical Pharmacy Services in various hospitals. He works with the University of Findlay, USA to provide Indian Pharm.D students an opportunity to visit the USA as a part of an exchange program. Dr. Karthik has organised 10 International and 25 National conferences; he has been Resource Person for over 50 Conferences and conducted Workshops in over 100 colleges of Pharm. D across India. He has mentored hundreds of students and helped them craft successful careers.

He is a founder of an NGO, Havens of Humanity and volunteers with Isha Foundation. His professional objective is to use his knowledge and skills to change the way pharmacy is practised in India.

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## Brief Description:

A complicated case of AIDS with multiple opportunistic infections, seen by around 12 doctors including a Critical Care specialist, Neurology team, ICU team and Infectious Disease team will be analyzed in this session. Dr. Karthik Rakam worked on this case during his ward rounds and made 8 clinically significant interventions as a clinical pharmacist. The session imparts the practical ways to analyze a case, identify errors and make interventions. All the aspects of Drug Therapy Problems that can be encountered in clinical practice will be discussed in depth, which include the following:

- **Treatment without indication**
- **Untreated indication**
- **Inappropriate drug selection**
- **Subtherapeutic dose**
- **Overdose**
- **Adverse drug reactions**
- **Drug interactions**
- **Drug duplication**
- **Patient compliance**



The health care team has a Doctor who makes diagnosis and prescribes the drugs, the pharmacist who dispenses the drugs, nurse who administers the drug, a physiotherapist who advises the patients on exercise and a dietician who takes care of diet related issues. In spite of the existing health care team taking care of all the aspects of patient care, is there a place for Pharm. D graduate in health care team? This is a very fundamental question which every student of Pharm. D is struggling to get an answer for. The workshop will give a comprehensive answer to this fundamental question, in the most relevant and practical way.

## Expected Outcome:

At the end of the session, students will be able to learn how to analyze a case, identify drug therapy problems which compromise the patient care and resolve them to meet the desired outcome. Practically understand the true meaning of Pharm. D and practice of pharmacy. Understand and appreciate the role of clinical pharmacist in health care team.

## Brief Description:

The core objective of the Clinical Pharmacist is to provide Pharmaceutical Care which is defined as the direct, responsible provision of medication-related care for the purpose of achieving definite outcomes that improve a patient's quality of life. The workshop will provide a deep insight into the role of Clinical Pharmacist in providing Pharmaceutical Care by taking HIV/AIDS case study as an example. Participants will be oriented to understand the logic behind designing HAART regimens, manage opportunistic infections (OIs), other comorbid conditions, understand how management of OIs and comorbidity can affect HIV therapy, learn strategies to improve patient outcome, enhance adherence, reduce pill burden and decrease medication errors.



## Salient features

Designing Antiretroviral Regimen in Therapy-Naïve Patients

Regimens in Tuberculosis/HIV Coinfection

Prevention and Treatment of opportunistic infections (OIs) in HIV infected Adults

- PCP
- *Toxoplasma gondii* encephalitis
- *Mycobacterium tuberculosis*
- MAC



Strategies to prevent Bone marrow suppression, peripheral neuropathy, indications for use of adjunctive corticosteroids, anticonvulsants, avoiding clinically significant drug interactions which interfere with HIV therapy while managing above OIs.

- Aspergillosis in AIDS
- IV admixture preparation (Choice of diluting fluid, ratio of dilution, rate of infusion)
- Proactive vs Reactive Therapy
- Participants will be asked to calculate the doses, find drug of choice, check for drug interactions, do role play etc.

**Expected outcome:** Understand and apply the principles of Pharmaceutical Care during ward rounds to optimize the patient's health-related quality of life, and achieve positive clinical outcomes, within realistic economic expenditures. Demonstrate the value of Clinical Pharmacist to all other health care professionals.