CURRENT RESEARCH TOPICS IN PHARMACY:
Therapeutic Drug Monitoring
March 29th, 2023 13.00 PM ISTANBUL

FOR REGISTRATION:

First Session - Moderator: Esra TATAR 13.00-14.30 PM

Welcome - Prof. Mesut Sancar
Marmara University, Istanbul, Türkiye

Analytical techniques used for therapeutic drug monitoring – Dr. Mohd Younis Rather
Government Medical College Srinagar, Srinagar, India

Combination of therapeutic drug monitoring and genotyping in pharmacotherapy - Prof. Halit Sinan Süzen
Ankara University, Ankara, Türkiye

Therapeutic drug monitoring of antipsychotics – Assist. Prof. Ana V. Pejčić
University of Kragujevac, Kragujevac, Serbia

Second Session – Moderator: Betül OKUYAN 15:00-16.30 PM

How to avoid perils and pitfalls when reading epidemiological studies – Dr. Pamela Xaverius
University of Health Science and Pharmacy in St. Louis, USA

Current themes in immunosuppressive therapies: TDM research and practice – Assist. Prof. Abdikarim Abd
Yeditepe University, Istanbul, Türkiye

TDM of antimicrobials: Role of clinical pharmacist – Assist. Prof. Emre Kara
Hacettepe University, Ankara, Türkiye

Chair
Prof. Hatice Kübra ELÇİOĞLU

Vice Chairs
Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR

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The main aim of therapeutic drug monitoring (TDM) is to provide effective and safe treatments. Resistance to antimicrobial drugs continues increasing, and no new antibiotic discovery exists. Therefore, using existing antimicrobial drugs in accordance with their pharmacokinetic and pharmacodynamic properties is an important strategy to prevent the development of resistance. TDM is required training to ensure an adequate understanding of the pharmacokinetics, interpretation of drug levels, and patient monitoring. In addition, some institutions may encounter barriers to timely results. Antimicrobial drugs recommended for routine TDM are vancomycin, teicoplanin, amikacin, gentamicin, linezolid, meropenem, voriconazole and posaconazole [1]. Targets are determined mainly by minimum or trough concentrations, but some drugs, such as vancomycin, have targets for the area under the concentration-time curve (AUC). Samples for trough level should be taken after drug concentration reaches a steady state, half an hour or one hour before the next dosing. For AUC calculations, samples are generally required at two different time points. Pharmacists have important roles in TDM. A survey conducted in Australia investigated current practices regarding the role of pharmacists in the TDM process. In this study, it is seen that pharmacists rank second in ordering, evaluating, and interpreting TDM. Pharmacists are mostly involved in the review and interpretation stages. Pharmacists stated the problems in the TDM process as the inappropriate sampling time, sample collection problems, following the TDM results, and inappropriate dose calculations. The most frequently included drugs in the TDM process were determined as aminoglycosides and glycopeptides. In addition, the pharmacist's role is described as
recommendations about TDM ordering, following, and managing TDM results in this study [2]. In an original study about pharmacist-initiated vancomycin monitoring, researchers found that pharmacist protocol may decrease acute kidney injury risk and may increase compliance with weekly monitoring for nephrotoxicity and vancomycin level [3]. In another similar study, researchers observed that pharmacist-driven programs might increase appropriate vancomycin monitoring and patient with level monitoring [4]. The management of TDM by the pharmacist also provides some additional benefits. A single-center study from Portugal determined that pharmacist-controlled TDM saved approximately 370,000 dollars for one year [5]. The roles of the pharmacist can be summarized as follows; providing advice on the TDM, helping with the interpretation of results, initial selection of drug, dose, interval, route of administration, and dosage form, dose adjustments, evaluation of unexpected results, and dose adjustment for patients on dialysis.

**Keywords:** Drug monitoring; antimicrobials; clinical pharmacist.
REFERENCES


