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## THERAPEUTIC DRUG MONITORING OF DRUGS FOR TREATMENT OF SUBSTANCE-RELATED DISORDERS

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Introduction: The effect of pharmacotherapy of substance-related disorders is moderate at best.

Objectives: Therapeutic drug monitoring (TDM) could be an instrument to improve the outcomes. TDM is for most of these drugs not established yet.

Aims: The authors built a literature based rating scale to evaluate the necessity of TDM for these pharmacological agents.

Methods: A literature research was performed for TDM related properties of acamprosate, bupropion, buprenorphine, clomethiazole, disulfiram, methadone, naltrexone, and varenicline. A rating scale was established for evaluation. It included 28 items related to five categories (efficacy, toxicity, pharmacokinetics, patient characteristics and cost effectiveness). For comparison, three reference substances with established TDM were similarly assessed: clozapine, lithium and nortriptyline.

Results: The three reference substances, lithium, clozapine and nortriptyline, achieved scores of 15, 18, and 14 points, respectively. Rating of methadone (19 points), bupropion (14 points), buprenorphine (14 points), disulfiram (13) and naltrexone (12 points in the indication opioid-dependency and 10 points in the indication alcohol dependency) achieved more than 30% of the reachable points, whereas acamprosate (9 points), clomethiazole (9 points), and varenicline (5 points) had fewer points especially in the main characteristics in favor of TDM.

Conclusions: These results suggest this rating scale is sensitive to detect the appropriateness of TDM for drug treatment. Literature based rating and clinical experience give evidence that TDM has the potential to optimize the pharmacotherapy of substance related-disorders with different rank orders of the single substances.