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Which drugs cause treatment-related problems? Analysis of 10,672 problems within the outpatient setting.

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Abstract: Background: Treatment-related problems (TRPs) may pose risks for patients if unaddressed. With the increased complexity of health care, it is important to target pharmacists' efforts to patients that are at high risk for TRPs. Objectives: The present study aimed to identify medications most commonly associated with TRPs. Setting: Outpatient departments of five public and teaching hospitals in Jordan. Method: TRPs and drugs most commonly implicated with TRPs were assessed for patients recruited from outpatient clinics in five major hospitals in Jordan using a standardized and validated pharmaceutical care manual. Main outcome measure: Drugs associated with different types of TRPs. Results: Ultimately, 2,747 patients, with a total of 10,672 TRPs, were included in the study. The medication groups most commonly associated with TRPs were cardiovascular (53.0%), endocrine (18.1%), and gastrointestinal (7.7%) drugs. The most common specific drugs associated with TRPs from any category were atorvastatin (12.5%), metformin (8.5%), simvastatin (6.2%), and enalapril (5.9%). Cardiovascular medications were the most common drugs implicated with multiple subtypes of TRPs - most commonly, allergic reaction or undesirable effect (88.5%), drug product not available (87.3%), safety interaction issues (81.8%), a need for additional or more frequent monitoring (78.0%), and more effective drugs available (77.2%). Hypertension, diabetes mellitus, and dyslipidemia were the most common diseases associated with different subtypes of TRPs. Conclusion: The present study identified high-risk drugs for TRPs, which can be used as identification of targeting approach TRPs. Such an approach would improve care provided to patients and can inform health care policies.