Drug associated risks:

Does the "Drug Associated Risk Tool" (DART) detect patients at risk for drug-related problems?

Master Thesis in Pharmacy 2014

Pharmaceutical Research Group, University of Basel

Timon Stolz

13. January – 6. June 2014

Abstract

Introduction: Numerous studies have shown that a lot of serious problems can arise due to the intake of medication. It is therefore not surprising that many patients are admitted to hospital because of adverse drug events (ADEs). In the meantime various risk factors that frequently lead to drug-related problems (DRPs) have been identified. A tool that has the aim to systematically detect patients at risk already during their admission has been developed in the form of the "Drug Associated Risk Tool" (DART). Thus the patients at risk could benefit from better pharmaceutical care during their hospitalisation. This poses the question whether the patients that show a lot of the risk factors of the DART *are* in effect the patients that carry a higher risk of developing a DRP. In order to examine this hypothesis, patients' risk factors were identified with the DART. Simultaneously the patients were interviewed about their experiences with DRPs.

Methods: Inpatients at the Bruderholz Hospital in Baselland were interviewed for the sake of finding out whether patients had already encountered DRPs. In order to do so the "Outcomes Questionnaire" (OQ) was developed as an additional tool. It includes questions on both the reason for a patient's current hospitalisation as well as on whether there were any unplanned hospitalisations or use of further health care resources within the last six months. During each of these questions the patients were also asked whether there could be a possible connection between the reason for their hospitalisation or their use of health care resources and their medication. Further questions had the objective of subsequently identifying any further problems that patients had in connection with the intake of their medication.

Results: A total of 100 inpatients were interviewed for this study. Ten cases of ADEs were identified with the aid of the interviews with the OQ and the hospital data. Three of these ten cases could only be detected by means of the interviews with the OQ. The analysis of the DARTs of these ADE-patients revealed that each patient possessed certain risk factors. In the last six months 22 patients experienced unplanned hospitalisations and 19 patients made unplanned use of health care resources according to the OQ. A further 41 patients reported one or more problem(s) in connection with their medication.

Conclusion: The performed study on patients` outcomes revealed that ADEs are common causes of unplanned hospitalisations. In the course of a more detailed examination of the various ADE-cases, a connection between the risk factors of the DART and corresponding ADEs could be determined in five out of the ten cases. The risk potential of these five cases was therefore assessed correctly by

the DART. A complete answer of the research question and the next step for future research would consist of comparing the risk profiles of patients with ADEs with those without ADEs.