

Prescribing Errors involved Splitting of Tablets: A Two-Hospital Case Analysis

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ABSTRACT

Objectives: To decide on whether tablet splitting scenarios represent prescribing error situations or not by a panel of expert judges composed of thirty members and to analyze splitting of tablets orders in two teaching hospitals.

Methods: A questionnaire containing scenarios was submitted to each member of the panel of expert judges, and a two round Delphi technique was followed to obtain consensus. Based on the Delphi rounds results, 902 and 316 medication orders were screened from Services Hospital and Punjab Institute of Cardiology, respectively.

Results: Two scenarios were considered prescribing error situations, one was excluded and one was partially agreed upon. In Services Hospital 42 errors were detected, out of which 20 errors involved splitting of modified release tablets while 22 errors involved splitting of coated tablets. In Punjab Institute of Cardiology 41 errors were detected, out of which 23 errors involved splitting of modified release tablets while 18 errors involved splitting of coated tablets.

Conclusion: It was concluded that programs are needed to increase the current awareness regarding unsuitability of splitting all tablet types.

Key words: Splitting, prescribing error, Delphi technique, Services Hospital, Punjab Institute of Cardiology.

INTRODUCTION

Splitting of tablets is a common practice, prescribers instruct their patients, nurses or other healthcare providers to split scored as well as non-scored tablets. Practitioners justify their practice by many advantages such as overcoming swallowing difficulties, adjusting dose for pediatric and geriatric patients, and long term therapy cost reduction^{1, 2}. Some literature defended the rationale behind this practice and concluded the insignificant difference between whole and split tablets in terms of stability and efficacy^{3, 4}. While others called for more research to generalize this approach in order to cut costs and ensure safety and efficacy⁵. Some researchers have gone beyond that studying the forces required to break a tablet, tensile and fracture strengths, relationship with tablet thickness depending scored and crushable tablets as rational dosage forms^{6, 7}. Apart of its advantages, the practice is confronted with many disadvantages such as; breaking inaccuracy, dose inconsistency, weight variability, contamination, loss of pharmaceutical elegance and consumer acceptability⁸⁻¹⁰. Though the practice could be argued for conventional-release and scored tablets, but it is still controversial for modified-release,

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coated and unscored tablets, since questions regarding dose dumping possibility, stability and efficacy needed to be answered^{11,12}.

No consensus was reached on splitting tablets whether consist a prescribing error or not. Also little is known about current splitting practice in Pakistan hospitals, since to the best of our knowledge no such study was conducted in Pakistan before. In this study, we investigated splitting tablets as prescribing error with special focus on modified-release, un-scored, and coated tablets.

METHODOLOGY

Definition of Prescribing Errors

Splitting a tablet (including modified-release and coated tablets) for any advantage may increase the risk of dose dumping and regimen failure, therefore it lies in the definition of prescribing errors developed by Dean et al and Ghaleb et al., which states that "A clinically meaningful prescribing error occurs when, as a result of a prescribing decision or prescription writing process, there is an unintentional significant (1) reduction in the probability of treatment being timely and effective or (2) increase in the risk of harm when compared with generally accepted practice"^{13,14}.

Panel of Expert Judges

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