



Dose reduction and delay or discontinuation of chemotherapy in cancer patients experiencing potential drug-drug interactions

CP-065

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Objective

Assessment of percentage of patients with prostate, pancreatic or colorectal cancer experiencing a change or a discontinuation in therapy due to potential drug-drug interactions (DDI)

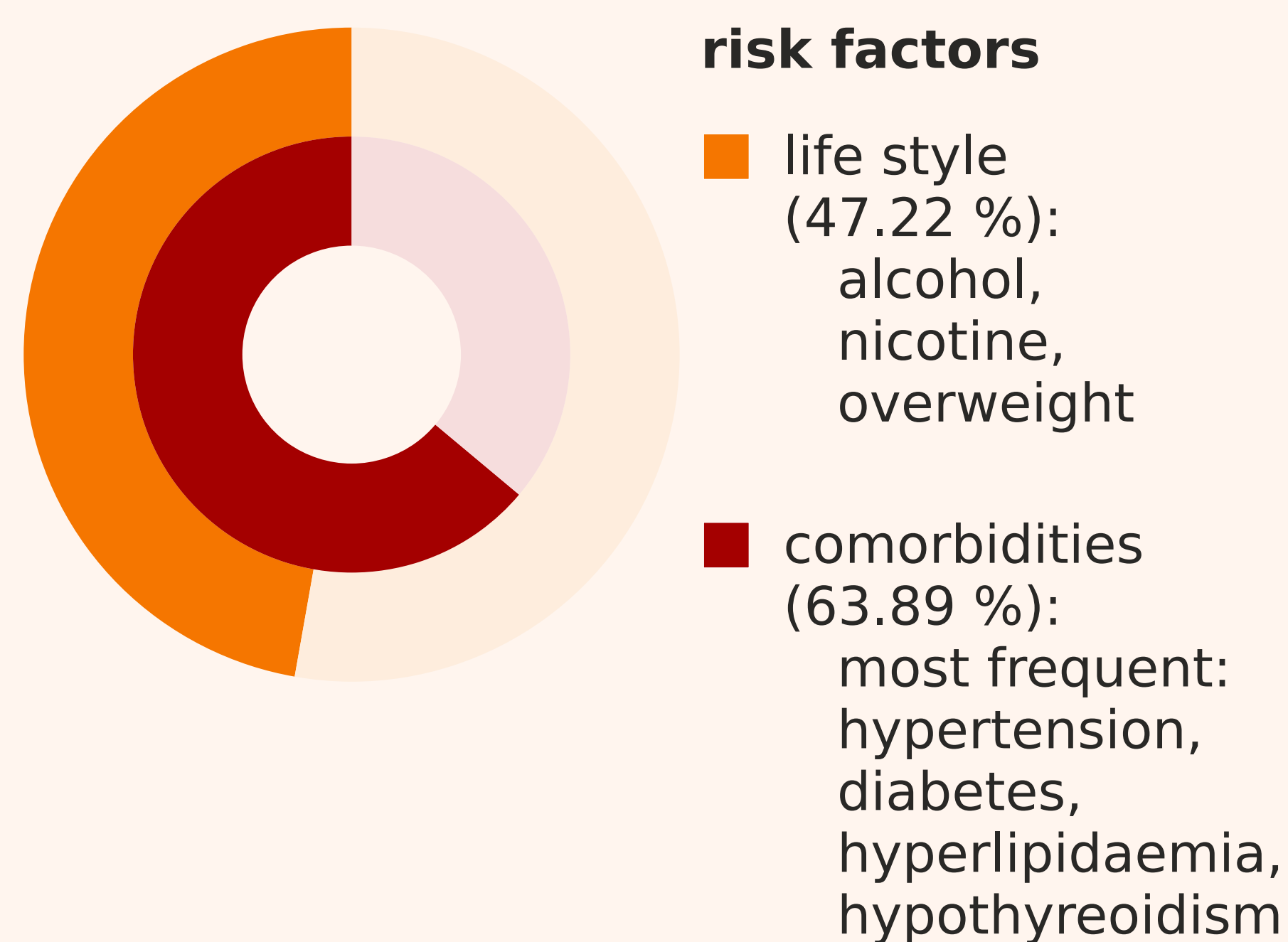
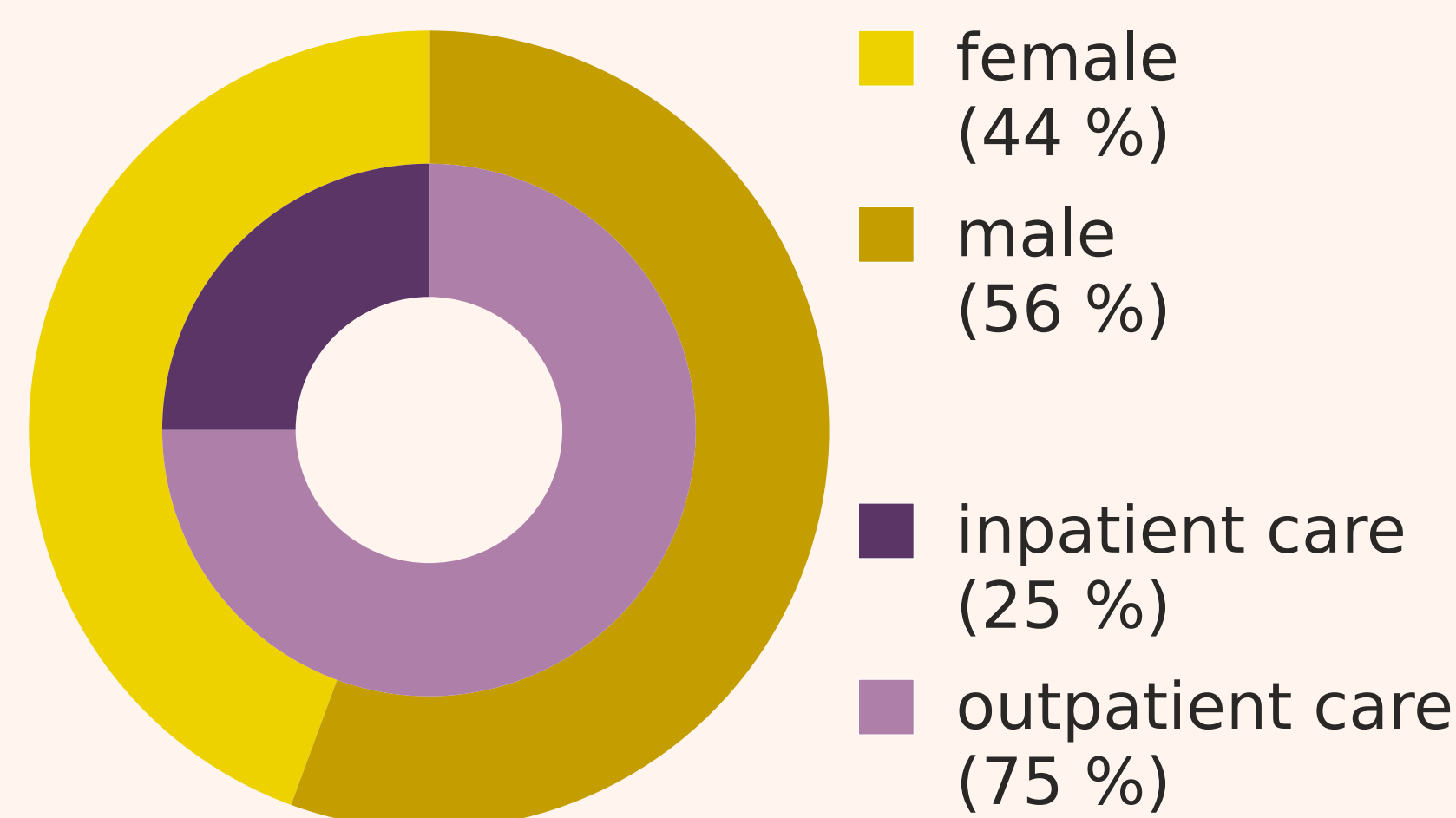
Methods

- single-site, retrospective, cross-sectional chart review
- retrospective data collection and statistical analysis (Microsoft Excel 2010™)
- online checkup of medication for potential DDI followed by a risk, severity and reliability rating (Lexicomp® Lexi-Interact™)

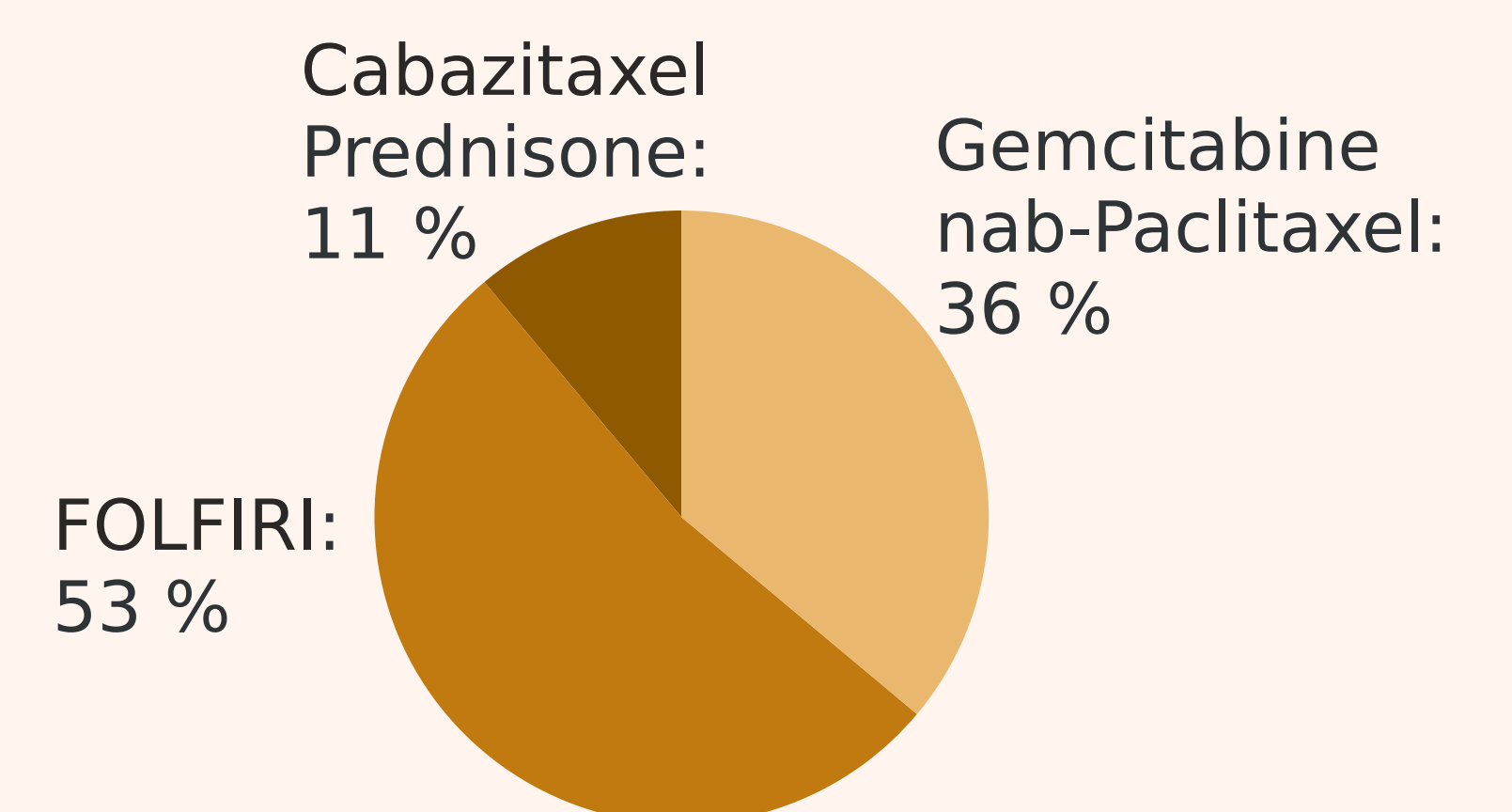
Results

- Delays and/or dose reductions were quite common (66%) in our study group (N=36; mean age 66 ±9). Almost 64% suffered from comorbidities (at least 1) and mean (±SD) number of co-administered drugs (CAD) was 6.6 ±3.6.
- 9 (25%) patients receiving chemotherapy regimen (CT) 5 GEM/NAB or 4 FOLFIRI, either needed dose reduction or delay or both because of potential interactions of concomitant medication (CCM).
- Distinct toxicity led to termination of the therapy in one of these 9 cases.
- In 8 patients CAD included at least one substrate (inducer or inhibitor) of the same CYP enzyme as the administered cytotoxic drug, increasing the probability of pharmacokinetic interactions. Additionally, in 6 out of those 9 potential pharmacodynamic interaction due to their co-medication might have augmented the risk of delay or dose reduction.

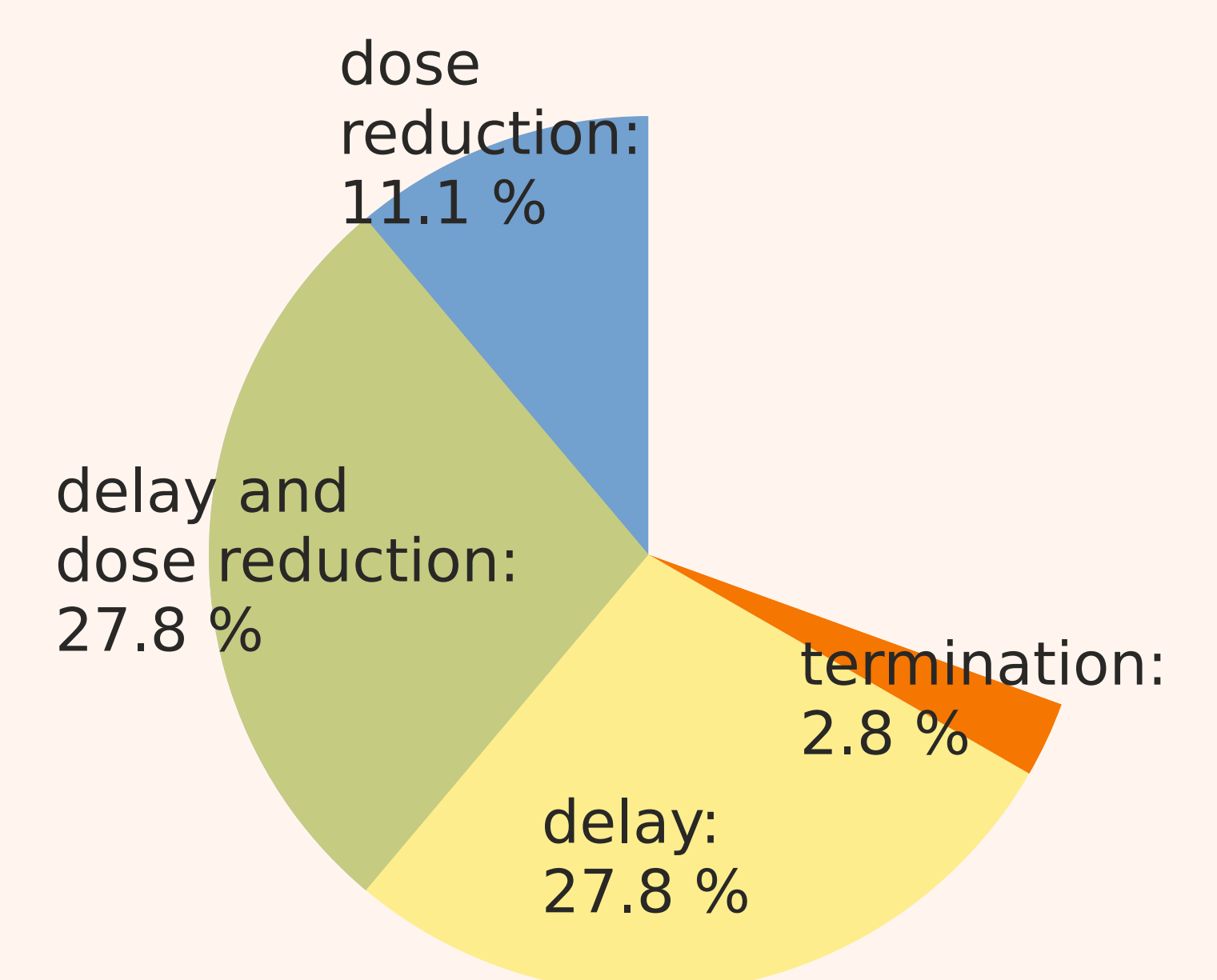
study population



chemotherapy



treatment modification



Discussion

- Compared to the findings of Popa et al. 2014 (75.4%) and Stoll et. al 2015 (62.8%), our investigation revealed a lower number of patients (25%) affected by potential DDI.
- Extrapolation from our results to the population size of Stoll et al. (N=113) would result in a threefold higher number of potential DDI. In case of Popa et al. (N=244) it would even exceed 100% (sixfold higher) being indicative for more than one potential DDI.
- As a consequence, extending the study would reveal either a confirmation of a rather low risk of DDI in our hospital or the contrary.
- Nevertheless, even our small number of subjects gave evidence of DDI to appear in a quarter of all cancer patients observed.
- Our results as well as the other findings mentioned, signalize that DDI are not a rare incident and should be considered whenever side effects of treatment occur.
- As a last point we state that medication screening was limited to prescription drugs.

Conclusion

Considering a single patient, the true extent of DDI-causing concomitant medication is generally difficult to assess, in particular its direct impact on chemotherapy adjustment. Continuous documentation and review of CCM and finally therapeutic drug monitoring may facilitate both detection and prevention of adverse events solely associated with CCM. Execution of previously mentioned tasks by clinical pharmacists could significantly contribute to optimizing therapy outcomes in the future.

Acknowledgement

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Literature

- Stoll et al.: Potential drug-drug interactions in hospitalized patients undergoing systemic chemotherapy: a prospective cohort study. *Int J Clin Pharm.* 37 (3):475-84, 2015.
- Popa M A et al.: Potential drug interactions and chemotoxicity in older patients with cancer receiving chemotherapy. *J Geriatr Oncol.* 5(3): 307-314, 2014.