

PILLARS AND PITFALLS OF THE NEW PHARMACOVIGILANCE LEGISLATION: CONSEQUENCES FOR THE IDENTIFICATION OF ADVERSE DRUG REACTIONS DERIVING FROM ABUSE, MISUSE, OVERDOSE, OCCUPATIONAL EXPOSURE, AND MEDICATION ERRORS

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Introduction: The aim of this study is to investigate if following the implementation of the Regulation EU/1235/2010 and the Directive 2010/84/EU there was an increase of individual case safety reports (ICSRs) deriving from a medication error, abuse, misuse, overdose, or occupational exposure. Other objectives are the identification of drugs mostly involved in such cases, to establish if the codification of aforementioned conditions is performed correctly and, whenever codification errors exist, to identify predictors of codification errors. Finally, we estimated the magnitude of these errors on signal detection activities.

Material and methods: ICSRs sent through Campania Region (Italy) spontaneous reporting system from July 2nd 2012 to December 31st 2017 were used as data source. A multivariable logistic regression model was used to identify predictors of codification errors. Four measures of disproportionality were used to investigate the magnitude of codification errors on a known safety signal or rather the association between benzodiazepines derivatives and abuse.

Results: In all, 358 (1.4%) out of 25610 ICSRs reported "non-normal use" of drugs, mainly as cases of abuse. Drugs mostly involved in abuse were "Benzodiazepines derivatives" (171/358; 47.8%). For medication errors instead, "Other antiseptics and disinfectants" (9/358; 2.5%). At the first quality control, 125 (34.9%) out of 358 ICSRs did not have a codification of "non-normal use" or codifications were performed wrongly. Codification errors included misclassification of abuse as overdose (10/125; 8.0%) and misclassification of medication error as overdose (7/125; 5.6%) or abuse (7/125; 5.6%). Compared to pharmaceutical companies, patients/citizens (as reporters) had a 24.88 higher odd (Reporting Odds Ratio 24.88, 95%CI 1.82–449.95; p-value: 0.02) of performing un-classification or misclassification of aforementioned codifications. Codification errors were associated with the underestimation of measure of disproportionality estimates in the identification of the safety signal "Benzodiazepine derivatives /abuse".

Discussion and conclusion: In conclusion, this study found that in Campania Region (southern Italy) there was an exponential increase of ICSR reporting "non-normal use," mainly as cases of abuse, with an improvable proportion of cases misclassified/unclassified. Moreover, this study found that ICSRs sent by patients/citizens were associated with an increased odd of un-classification or misclassification that had a relevant impact on signal detection activities.