

REGIONAL SURVEILLANCE OF EMERGENCY DEPARTMENT VISITS FOR OUTPATIENT ADVERSE DRUG EVENTS

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Purpose There is little evidence concerning adverse drug events (ADEs) in outpatients and related hospital admissions. In Italy, only few investigations were conducted on this important health issue (1). Therefore we carried out a study to determine in Regione Campania: 1) the percentage of emergency department (ED) visits due to adverse drug events (ADEs); 2) the percentage of visits requiring hospitalisation due to acute ADEs; 3) the drugs implicated in ADEs; and 4) the types of ADEs and their frequency.

Methods We performed a prospective study in two observational periods of ten days each concerning ten EDs. Demographic, clinical and pharmacological data about all patients admitted to EDs were collected by trained and qualified monitors. Patients were asked if they had taken a drug (name, dosage and reason for its use) in the previous two weeks. Records related to ADE were analysed and validated by a specific scientific committee.

Results On 7861 enrolled patients, 92 (1.3%) were affected by ADEs. Among these, 17 (18.5% of ADE patients) reported a serious adverse event. Among patients who took a drug in the previous two weeks, the incidence of hospitalisation was significantly higher compared to total sample (24.9% vs. 16.4%; $p < 0.0001$) and accounted for 1.2% (17 cases) of total hospital admissions. Females ($p < 0.0001$) and elderly ($p < 0.0001$) significantly experienced an ADE. Serious ADEs resulted significantly associated with male gender and old age. Cardiovascular agents (21.5%) and systemic antimicrobial agents (18.8%) were the drugs mostly involved in ADE occurrence. ADEs affected mostly central nervous system (27.5%) and skin (24.1%). An increased risk of ADE was also estimated for drug's frequency of use (antimicrobial agents, RR:3.74, 95% IC: 2.3-6.1; ACE-inhibitors, RR 1.62, 95% IC: 0.9-2.8; Nonselective anti-inflammatory drugs, RR:1.62, 95%IC: 1.0-2.5).

Conclusion Old age and male gender resulted risk factors involved in the development of serious ADE. The high ADE-related hospitalisation incidence highlights the need for prevention strategies targeted to reduce the impact of ADE in the general population.

1. Capuano A., Motola G., Russo F., Avolio A., Filippelli A., Rossi F., Mazzeo F. (2002) *Pharmacol Res* 50:631-636.