Gabapentin and pregabalin use in general practice: evaluation of use and appropriateness during the years 2005—2011

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In the last years gabapentin and pregabalin have been increasingly prescribed for the treatment of neuropathic pain. This resulted in a significant increase in health care expenditure, as well as in higher risk of inappropriate prescribing. As a consequence, since January 2007, the Italian National Health System took a health-policy intervention (nota 4) by restricting the refundability of pregabalin and gabapentin to indications for which scientific evidence is available. The aims of this study were: to explore the trend in the use of gabapentin and pregabalin during the years 2005-2011 in a general practice setting; to analyse the predictors of inappropriate use of these drugs. We analysed a population of almost 150.000 individuals living in Caserta and registered in 123 general practitioners' (GP) lists. Patients who received at least one prescription of gabapentin or pregabalin during the period 2005-2011 were identified. Over the study years, one-year prevalence and incidence of use of these drugs was measured. To investigate the potential predictors of inappropriateness, each prescription of gabapentin and pregabalin filled during the study period was evaluated according to the approved indications of use and national health-policy interventions provided in nota 4. Physicians and patients' characteristics were considered in quartiles to assess the relative frequencies of inappropriate prescriptions. Gabapentin incidence of use dropped from 55.4/10000 inhab. in 2005 to 10.4 in 2011. On the contrary, pregabalin prescription raised from 30.5/10000 inhab. in 2005 to 47.7 in 2011 with a peak to 106.1 in 2006. Inappropriate prescriptions account for almost 55% of all prescriptions of gabapentin or pregabalin. GP characteristics mainly associated to inappropriate prescriptions were: male gender [OR 1.45 (95%CI 1.37-1.54)], shorter career duration [OR 1.07 (95%CI 1.01-1.13)], higher number of patients registered in GPs lists [OR 1.16 (95%CI 1.10-1.23)] and higher number of patients treated/1000 patients [OR 1.17 (95%CI 1.09-1.24)]. Inappropriate prescriptions were more frequent if filled to females [OR 1.12 (95%CI 1.07-1.16)], and patients older than 71 [OR 1.08 (95%CI 1.02-1.15)]. Concomitant diseases as diabetes [OR 0.38 (95%CI 0.36-0.40)] or neoplasm [OR 0.30 (95%CI 0.27-0.32)] were associated with higher appropriateness; conversely prescriptions in patients affected by mood disorders [OR 1.64 (95%CI 1.56-1.71)] and arthritis [OR 1.22 (95%CI 1.17-1.28)] were more frequently inappropriate. Moreover, concurrent prescriptions of antidepressants [OR 1.42 (95%CI 1.35-1.49)], antipsychotics [OR 2.05 (95%CI 1.79-2.34)], proton pump inhibitors [OR 1.06 (95%CI 1.02-1.11)] and antiosteoporotics [OR 1.35 (95%CI 1.23-1.49)] were related to higher risk of inappropriateness. Conversely, the concomitant use of pain killer drugs [OR 0.89 (95%CI 0.85-0.92)], especially opioids [OR 0.65 (95%CI 0.62-0.69)] reduced the risk of gabapentin or pregabalin inappropriate use. Then, inappropriate prescriptions were mainly filled in patients with sporadic prescriptions [OR 1.09 (95%CI 1.01-1.17)]. Prescriptions filled after the introduction of nota 4 were associated at higher risk of inappropriateness [OR 1.69 (95%CI 1.59-1.80)], especially in 2007 [OR 1.98 (95%CI 1.81-2.16)], but this risk was less marked after the revision [OR 1.25 (95%CI 1.19-1.31)]. Further, pregabalin use was associated to lower risk of inappropriateness than gabapentin [OR 0.76 (95%CI 0.73-0.80)]. This study documented a significant rate of inappropriate prescriptions in clinical practice. The introduction of "nota 4" exerted a marked influence on gabapentin and pregabalin prescriptions. Indeed, it reduced by about 4 times their incidence of use. However it was not able to contain pregabalin use, which progressively raised to pre-note levels. Further, inappropriateness increased after the introduction of this health measure, in particular until the revision in 2008.