Optimizing antipsychotic medicines use among the elderly: preliminary results of the potential use of web-based tools for cardiovascular safety

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Background Antipsychotic use is linked to cardiovascular adverse events. Several web-based tools have been developed, but information on their potential to improve cardiovascular safety when optimizing pharmacotherapy is scarce.
Purpose Our aim was to explore the potential of web-based tools in optimizing pharmacotherapy regimens in terms of cardiovascular safety among elderly antipsychotic (AP) users in a long term-care facility (LTCF).
Method A cross-sectional study was conducted in two Portuguese LTCF (n=57 residents), where patients aged ? 65 wi th ? one prescription of APs were included. APs were defined using the ATC classification system (all codes of N05A, ex cluding lithium ? N05AN01). Patients were first stratified by their cardiovascular risk using the web-based Fr amingham Coronary Heart Disease Risk score, extracting variables of interest from medical records. Secondly, the prevalence of PIMs and drug-drug interactions were evaluated using two other web-based tools: PIM Base (conjugation of 4 different criteria) and Drug Interaction Checker (number of interactions and their clinical relevance; providing a recommendation with a justification to avoid or to use an alternative drug when classified as serious). These two web-based tools were used separately to identify different formats of medication misuse. Results were analyzed in general and specifically for the cardiovascular system.
Findings Until the moment, a total of 32 patients met the inclusion criteria, where 84.4% (n=27) were female with an average of 85.4 (±6.7) years old. The majority of these patients presented high cardiovascular risk (81.3%, n=26). In 4 3.8% (n=14) of patients, APs were used on a regular basis, 18.8% (n=6) were using them as required only and 37.5% (n=12) were using on a regular basis plus as required. According to PIM Base, thirty-one patients (96.9%) were using PIMs (4.3±1.7 PIMs/patient). Of those, 78.1% (n=25) were rated one on a 5-point scale, implying drugs are considered c ertainly inappropriate (average of 1.7±1.1 PIMs per patient). Additionally, 43.8% (n=14) of patients were using APs a nd presented dementia, highlighted as inappropriate in the elderly given the risk of stroke. Drug Interaction Checker indicated 96.9% of patients (n=31) presented ? 1 drug-drug interaction (mean 10.9±8.1 interactions per patient). Half the interactions detected were classified as serious, nearly all of them justified close monitoring and only 5% could be considered totally contraindicated. Fifty-three percent (n=17) of the interactions found involved at least one AP, and all of these were related to QT-interval disturbances.
Conclusion Web-based tools could be useful in clinical practice to optimize pharmacotherapy in polypharmacy elderly patients with high cardiovascular risk. Future work will focus on creating an algorithm where the data gathered by the too web-based tools plus clinical data on file may be combined and judiciously used to target interventions at those with greater risk for misuse.