


26. POTENTIAL HERB-DRUG INTERACTIONS AMONG ELDERLY NURSING HOME RESIDENTS IN ROMANIA

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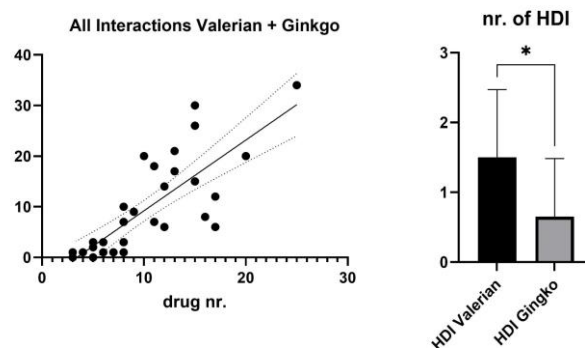
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 <https://www.youtube.com/live/fSpXH-3Xy5w?t=13559s>

BACKGROUND: Herbal supplements are widely used as complementary or alternative medicines, but their phytochemical effects on conventional drugs are often overlooked. Evidence shows that herb-drug interactions (HDIs) are significant in clinical pharmacology. However, the current use of herbal supplements and the prevalence of HDIs among elderly patients in nursing homes is not known. **AIM:** Our study investigates the algorithm-predicted HDIs during herb-drug coadministration among elderly patients in nursing homes in a Romanian sample. **METHODS:** We collected demographic data, clinical history and medication of elderly patients from three nursing homes across Romania. We focused on patients using Valerian and Ginkgo biloba (Ginkgo) to investigate their role in HDIs. A freely available online platform was used (MedScape Drug Interaction Checker) to identify and describe potential HDIs with severity grades from 1 to 4 (1=minor; 2=monitor closely; 3=serious, use alternative; 4=contraindicated). Further analyses were carried out using GraphPad Prism. **RESULTS:** 275 patients were included, of these, 10 used Valerian-containing products and 23 used Ginkgo. The average age was 84.58.2 for women; and 7311.0 for men, 60.6% of patients were female and 39.4% male. A total of 304 possible interactions were identified, with 9.2% (n=28) predicted to be related to the coadministration of Valerian or Ginkgo with synthetic drugs. 10.7% (n=3) of the interactions were grade 1, 42.8% (n=12) were grade 2, 46.4% (n=13) were grade 3, and no grade 4 interaction was found. The most commonly affected drug classes in HDIs were antiplatelets (n=10), anticoagulants (n=1), and NSAIDs (n=1) for Ginkgo, and benzodiazepines (n=7), sedatives (n=5), and SSRIs (n=3) for Valerian. The number of possible interactions between the Valerian and Ginkgo-treated groups was compared using the Mann-

Whitney U test, which revealed a significant difference (p=0.02) with a higher number of interactions in the case of Valerian. We conducted a regression analysis that showed a significant relationship between the number of drugs/supplements taken and the number of interactions with severity grades 1 ($R^2=0.40$; $p<0.0001$) and 2 ($R^2=0.69$; $p<0.0001$). Additionally, in the case of Ginkgo usage, a significant regression was found for HDIs ($R^2=0.28$; $p=0.0087$). **CONCLUSION:** We found a significant number of potential HDIs caused by Valerian and Ginkgo, with nearly half of these being serious enough to warrant increased attention or consideration of alternatives. The most frequently affected drug classes were antiplatelets for Ginkgo and benzodiazepines, sedatives, and SSRIs for Valerian. Our regression analysis showed that the number of drugs/supplements could predict the number of possible interactions with severity grades 1 and 2, and Ginkgo-related HDIs. Since the identified interactions are predictions, future research is needed to assess their actual occurrence and clinical impact.

Figure: Comparison of Herb-Drug Interactions (HDIs) Associated with Valerian and Ginkgo: Regression Analysis of Total Interactions and Severity Scores.



Key Words: Herb-drug interaction, Nursing home, Ginkgo biloba, Valerian, Pharmacokinetics.