

An Overview of Herb-Drug Interactions of Kava, St. John's Wort, and Valerian Root on Common Psychotropic Medications

Arnold Chang (changarn@usc.edu)

Background/ Purpose

This study was done in conjunction with a study done by Dr. Erdelyan, a PGY-4 Psychiatry Resident at LAGMC, who found that 54% of their patient population used at least 1 type of complementary and alternative medicine. Of those medications, the most common uses were anxiety, depression, and sleep of which Kava, St. John's Wort, and Valerian Root are the most popular herbal supplements used. Those substances are often used in place of traditional pharmaceuticals due to perceived safety however that is not entirely true. Which leads to worsened patient outcomes. The purpose of this study is to quantify the commonality and severity of those adverse effects.

Methods

This study is a literature review which used Pubmed as its primary research database. The following MeSH search was used: "Valerian"[Mesh] OR "Hypericum"[Mesh] OR "Kava"[Mesh] AND "Herb-Drug Interactions"[Mesh]. Articles were selected in this study with the following inclusion criteria: Kava, St. John's Wort, or Valerian Root human consumption, and Concomitant psychotropic medication use. Articles were excluded from this study with the following exclusion criteria: in vitro studies, interactions with non-psychotropic medications, studies with non-human test subjects, and herbal supplements other than Kava, St. John's Wort, or Valerian Root.

Results

The literature search with the MeSH search described above yielded 166 articles of which 13 were used for this study. Kava had 4 case reports. St. John's Wort has 3 open-label crossover studies, 1 cases series consisting of 5 case reports, and 3 case reports. Valerian Root had 1 open label crossover study and 1 case report. Across all three herbal supplements the most common class of medications leading to adverse effects were benzodiazepines. The most common causes of interactions were CYP enzyme inhibition in Kava and Valerian Root while St. John's Wort's interactions were largely due to increases in serotonin reuptake inhibition as well as CYP enzyme induction.

Conclusion

From the studies collected throughout this study we found that the most common psychotropic medication interaction was benzodiazepines which showed a significant additive effect when used with sedating herbal supplements in this study. This is believed to be due to additive sedating effects and also CYP enzyme inhibition and induction which alters the serum blood levels of the psychotropic medication in the patient.