

Women more sensitive than men to sublingual zolpidem

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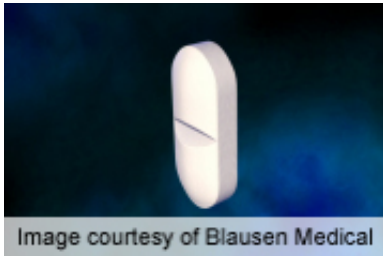


Image courtesy of Blausen Medical

(HealthDay)—Clearance of zolpidem (administered as a sublingual tablet; ZST) is lower in females compared to males, according to a study published in the March issue of *The Journal of Clinical Pharmacology*.

David J. Greenblatt, M.D., from the Tufts University School of Medicine in Boston, and colleagues evaluated the effect of dose and gender on the pharmacokinetics (PK) and pharmacodynamics (PD) of zolpidem in healthy nonelderly male and female volunteers (11 [females](#) and 13 males). Participants received a single morning dose of ZST (1.0, 1.75, and 3.5 mg) or placebo.

The researchers found that, in male and female subjects, ZST PK were linear, with area under the curve (AUC) proportional to dose. Oral clearance and elimination half-life was independent of dose; however, in females, the AUC averaged 40 to 50 percent higher, compared to males receiving the same dose. Body weight incompletely explained the gender effect. In females, particularly at the 3.5-mg dose, ZST produced PD changes consistent with benzodiazepine agonist effects. PD effects were significantly related to plasma zolpidem concentrations for several PD variables when data were aggregated across subjects, although there was variability in individuals' response. Regardless of plasma concentration, PD

effects of zolpidem seldom differed from placebo in men.

"PD effects of zolpidem from ZST are greater in female subjects, due to a combination of higher plasma concentrations and greater intrinsic sensitivity," the authors write.

Several authors disclosed financial ties to pharmaceutical companies, including Transcept Pharmaceuticals, which funded the study and is a manufacturer of [zolpidem](#).

More information: [Abstract](#)
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