Survey of anticonvulsant drugs and lithium prescription in women of childbearing age in Japan using public national insurance claims database of Japan

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Pharmacological treatments with some anticonvulsants including valproate and lithium should be avoided where possible in childbearing-aged and pregnant women with epilepsy and bipolar disorder because they increase the risk of major congenital malformations. Considering that approximately 40-50% of pregnancies are unplanned, understanding the rate of anticonvulsants and lithium prescription in childbearing-aged women is important. Therefore, this study aimed to conduct a surveillance to evaluate real-world prescriptions of anticonvulsants and lithium in childbearing-aged female and male outpatients in Japan, using the first publicly available National Insurance Claims Database (NDB), called "NDB Open Data Japan," covering all insurance claim receipts in Japan. We performed a summary statistical analysis of the numbers of the most prescribed 11 anticonvulsants and lithium tablets in female and male outpatients aged 15-29 (younger childbearing-age), 30-49 (older childbearing-age), and >50 (non-childbearing-age) years from April 2014 to March 2015. We determined the association between anticonvulsant or lithium use and sex difference at childbearing age, and the odds ratio (OR) and 95% confidence intervals (CIs) were estimated using logistic regression analysis. Valproate (number of tablets = 273,135,937) was the most prescribed drug among the 12 investigated drugs, and 125,451,907 tablets were prescribed for women (younger, older, and non-childbearing-ages, 19,296,528, 47,826,746, and 58,328,63, respectively), compared to 147,684,031 tablets for men (younger, older, and non-childbearing-ages, 24,534,648, 57,229,981, and 65,919,402, respectively). Valproate prescription was only slightly lower in childbearing-age women than in men of the same age (i.e., ages 15-29, OR = 0.889, 95% CI = 0.888 to 0.890; ages 30-49, OR = 0.944, 95% CI = 0.944 to 0.945). This study demonstrated that valproate was highly prescribed for girls and women of childbearing age in Japan in 2014-2015. Physicians should prescribe valproate with considerable caution in girls and childbearing-aged women.