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Sex-related differences in medical cannabis use: A nation-wide database study

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doi: 10.1192/j.eurpsy.2023.256

Introduction: Cannabis use is associated with mental illness among men and women, especially induction or exacerbation of psychosis, anxiety, and depression. Although safety and efficacy of cannabis in most medical conditions have not been established, use of medical cannabis is growing exponentially. In particular, albeit sex-related differences in the activity of the endocannabinoid system in animals and humans, differential effects of cannabis on men and women have rarely been sought.

Objectives: To characterize patterns of use and adverse effects experienced by men and women using medical cannabis.

Methods: Data from the Israeli national database of patients licensed to use medical cannabis in Israel from January 2014 to December 2021 was analyzed. The database includes indications for cannabis use, monthly cannabis quantities, Tetrahydrocannabinol (THC) and Cannabidiol (CBD) concentrations, and reports of adverse effects. Comparative statistics were used to evaluate the sex related differences.

Results: 161,644 persons (62% men) were issued a license to use medical cannabis during the study period. Men are significantly younger than women (50.5±19.1 vs. 56.5±18.4). The leading indications among both men and women are chronic pain (58% of men, 57% of women), symptoms related to oncological disease and chemotherapy treatment (21% of men, 24% of women) and post-traumatic stress disorder (9% of men, 6% of women). Men consume significantly higher monthly quantities at the beginning of treatment compared to women (31.6 gram vs. 29.3 gram) with a higher THC concentration (13.9% vs. 11.6%) and lower CBD concentration (5.3% vs. 6.7%). Over two years of use, there is an increase among both men and women in the amount and THC concentration, and a decrease in the CBD concentration. The differences between men and women remain significant throughout the whole period. Data on adverse effects are available for 28,629 men and 17,204 women (28.6% of men, 28.0% of women). Women report significantly more physical adverse effects (RR 1.48 [95%CI 1.39-1.57]), anxiety (RR 1.45 [95%CI 1.35-1.56]), depression (RR 1.36 [95%CI 0.95-1.96]) and derealization (RR 3.44 [95%CI 2.42-4.89]).

Conclusions: Although the prevalence of medical conditions for which medical cannabis is indicated are similar for both genders, approximately 60% more men consume medical cannabis. While consuming lower cannabis amount and THC concentration, women report more physical and psychiatric adverse effects than men. Understanding the differences in usage patterns and adverse effects between men and women will enable more accurate policy determinations and more effective and safer treatment strategies.

Disclosure of Interest: None Declared

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Use of systemic hormonal contraception and depression: a nested case-control study

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doi: 10.1192/j.eurpsy.2023.257

Introduction: Depression is twice as common in women as in men, especially in the young age group. Multiple factors may contribute to this gender difference. Growing attention is being focused on the role of sex hormones, including those of hormonal contraception (HC). Some recent studies have indicated a higher risk of depression among women using HC, although the results are inconclusive.

Objectives: The aim of this study is to examine the associations between the use of hormonal contraception and the risk of depression in childbearing age women.

Methods: The original cohorts for the study included all women aged 15-49 years with at least one redeemed prescriptions for HC in Finland in 2017 (n=294,356), and a 1:1 age-matched cohort of non-users. After exclusion of prevalent cases (n=35,102), all incident cases of depression (as recorded in the Care Register of Health Care and Register of Primary Health Care Visits) in 2018-2019 were identified (n=23,480), and a 4:1 age-matched control group (n=93,920) was selected from the above cohorts. Current use of HC in the 180 days before the event was compared in cases and controls, and associations with risk of depression were tested via conditional multivariate logistic regression models.

Results: During the follow-up, 23,480 incident cases of depression were identified. Current use (in the 180 days before the event) of HC (OR 0.82, 95% CI 0.79-0.85), in particular of estradiol- or ethinylestradiol-containing combined HC was associated with a lower risk of depression (OR 0.83, 95% CI 0.76-0.89; OR 0.74, 95% CI 0.71-0.78, respectively) compared to non-use of HC. The results remained significant (OR 0.87, 95% CI 0.81-0.95; and OR 0.77, 95% CI 0.73-0.81, respectively) after controlling for covariates (marital and socioeconomic status, education level, chronic diseases). Use of progestin-only contraception was not associated with altered risk of depression.

Conclusions: Use of HC in childbearing age women is not associated with increased risk of depression. Rather, the use of estradiol- or ethinylestradiol-containing HC is associated with a lower risk of depression.

Disclosure of Interest: None Declared

Bipolar Disorders and Suicidology and Suicide Prevention

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Associations between polygenic loading, psychosis liability, and clozapine use

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doi: 10.1192/j.eurpsy.2023.258