

Impact of cannabinoids on fertility; a review

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Introduction and Objectives

Cannabis is an increasingly used recreational drug in the Western world. Its constituent components are cannabinoids, the main ones of which are tetrahyrdocannabiol (THC), which is the psychoactive molecule and cannabidiol (CBD). CBD is prescribed in the United Kingdom in the treatment of conditions such as multiples sclerosis and epilepsy, and is freely available to purchase in various formulations. However, there is limited data assessing the link between cannabis use and fertility, and less specifically looking at the effect of CBD on fertility. The aim of this review was to assess the effects of cannabidiol, THC and cannabis usage on fertility.

Methodology

A narrative literature search of the major databases (Pubmed, Medline, Google Scholar, Web of Science) was conducted using the words 'cannabidiol, cannabis, marijuana, sperm, tetrahyrdocannabiol, and fertility. Given the paucity of prospective data available quantitaive analysis was not possible, so the literature was critically reviewed to aassess the impact on fertility.

Results

Cannabis use during pregnancy decreases birth weight, increases pre-term delivery and NICU admission, and leads to neurodevelopmental delay in the newborn



Regular marijuana increases coital frequency in both men and women⁽⁹⁾

In 1,215 healthy, young men those that smoked marijuana more than once a week had a **28%** lower sperm concentration and **29%** lower sperm count⁽⁶⁾



Regular marijuana usage does not appear to affect time to pregnancy



Regular marijuana use can increase rate of anovulatory cycles, likely by effects on hypothalamic GnRH release

A large epidemiological study concluded that CBD use was linked to a higher rate of 11 congenital abnormalities



Conclusion

Studies looking at marijuana use often have significant obstacles as they rely on self-reporting and a large proportion of users smoke marijuana with tobacco. As such, there is a large gap in data relating to the effects of cannabis and CBD which in the context of declining fertility rates is a subject that warrants further study. In certain countries such as the United States and Canada, there has been recent widespread legalisation of cannabis, highlighting the urgent need for such research. In the United Kingdom the increasing use of CBD formulations should prompt similar action as its effect are largely unknown, but appear deleterious.