



Marijuana and Sexual Function: The Great Unknown Editorial for Sexual Medicine Reviews

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Short Communication

Marijuana is the plant that produces cannabis and its active ingredient tetrahydrocannabinol (THC). Marijuana has been known as a drug and has been consumed by humans since the ancient times. Indeed, the age of the pharaohs document the use of marijuana for inflammation, healing and other medical treatments [1]. While marijuana was used only occasionally until the 1960s, its use has increased with time and the recent legalization of marijuana for recreational use in Colorado and Washington in the US as well as its legal use in The Netherlands and other European countries has renewed the interest in this agent and its effects, side effects and impact on many areas of medicine. While the medicinal use of marijuana has long been documented and its use for chronic pain, refractory glaucoma and nausea associated with chemotherapy has been well studied and documented, the regular and even heavy use of marijuana as a recreational drug has not been well documented.

Its effects on sexual function are, however, legendary. During the 1960s, it was widely believed that marijuana increased libido, enhanced both male and female orgasm and was an effective aphrodisiac. While these opinions were part of the lore of that generation that also experimented with psychedelic agents such as LSD and mescaline, there are few evidence based data on the positive sexual effects of marijuana. Indeed, the nature of the drug makes it very difficult to study in a scientific fashion. Governmental regulations make obtaining the active ingredients for animal and human studies very challenging and expensive. The lack of industry interest and funding add to these challenges. This has led to a paucity of evidence based literature on the long term effects of marijuana and its beneficial and deleterious effects in all age groups.

Data from behavioral literature document the increase in risk taking behavior of both men and women while taking marijuana [2,3]. These risky behaviors include increases in sexual promiscuity, decreases condom use and earlier sexual experimentation [3]. While these behavioral issues as well as the increased use of tobacco and illicit drugs among marijuana users are well documented, the single agent marijuana may be only a portion of these behavioral changes.

There are some recent studies, however, that is quite disturbing and may show secondary effects on sexual function of chronic marijuana users. In a recent review of marijuana use in the American Heart Journal, French researchers found an alarming increase in cardiovascular events in patients using marijuana [4]. These events included myocardial infarction, strokes, vasculitis and other events occurring in patients younger than the usual age for these catastrophic occurrences and with no vascular risk factors. In an editorial that followed the article, Rezkalla and Kloner reviewed their own work as well as others in the past decade from the United States and internationally [5]. These authors reported that there was a significant increase in documented increases in: Increased angina, myocardial infarction, Reynaud's phenomenon, cardiac arrhythmias, cardiomyopathy, digital necrosis angitis, transient ischemic attacks and stroke. The CARDIA study published in 2006 documented the increased high caloric intake, hyperlipidemia and hypertension associated with marijuana use and Dahdoh documented the increased platelet coagulability caused by marijuana use that can increase the risk of myocardial infarction. More worrisome is the more than fourfold increase in MI in patients taking marijuana and the additional more than fourfold increase in mortality from these MIs [6].

While these data do not specifically speak to the issues of sexual dysfunction and these vascular changes, it is well known that erections are vascular events and if the small vessels in the heart and brain are affected by marijuana, the small vessels of the corpora cavernosa must be likewise affected. Similarly, platelet function is well known to be associated with erection and the coagulation changes

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documented in the cardiac literature must also have an impact on erectile function [7].

The effects of marijuana on the hormonal function of males and females have been studied in both animal models and humans [8]. There is evidence of some facilitatory effects on both animal and human females but the effects on males is less well studied, but seems more a reduction in hormonal effects through the suppression of gonadotropin release has been documented [9]. Less well documented is the actual reduction or increase in testosterone levels. Data for both increases and decreases have been reported in multiple species.

There is evidence that marijuana may have peripheral antagonizing effects on erectile function through the stimulation of specific receptors in the cavernous tissue [10]. These effects may add to the vascular and putative hormonal changes in reducing the copulatory behavior seen in animals and the reduction in male sexual function reported in some studies.

Data are also accumulation on the effect of regular marijuana consumption on male factor infertility. Several studies have demonstrated that marijuana reduces male copulatory activity in both animals and humans [11]. Further, marijuana users have been reported to have reduced fertility associated with decreased sperm concentration, defective sperm function and alterations of sperm morphology.

While many more specific studies are needed to conclude that marijuana and its active ingredient cannabis or THC are enhancers or detractors from sexual functioning, some of the new warnings about vascular, hormonal and infertility should give sexual medicine providers some data to assist in counseling their patients. What is most clear, however, is the significant lack of well done studies on female sexual function and marijuana. Other than the well documented increases in sexual risk taking behavior; few data are available to evaluate the physiologic effects of marijuana and cannabis on female sexual function and dysfunction. With the increased legal consumption of marijuana, there is a significant need for more research, funding for research and close epidemiologic follow up on the population and medical effects of this newly legalized drug.

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