

10. Krenn H, Daha LK, Oczenski W, Fitzgerald RD. A Case of Cannabinoid Rotation in a Young Woman With Chronic Cystitis. *J Pain Symptom Manage.* 2003;25:3–4. [http://dx.doi.org/10.1016/S0885-3924\(02\)00601-2](http://dx.doi.org/10.1016/S0885-3924(02)00601-2).
11. Wade DT, Robson P, House H, Makela P, Aram J. A preliminary controlled study to determine whether whole-plant cannabis extracts can improve intractable neurogenic symptoms. *Clin Rehabil.* 2003;17:21–29. <http://dx.doi.org/10.1191/0269215503cr581oa>.
12. Brady CM, DasGupta R, Dalton C, Wiseman OJ, Berkley KJ, Fowler CJ. An open-label pilot study of cannabis-based extracts for bladder dysfunction in advanced multiple sclerosis. *Mult Scler Houndmills Basingstoke Engl.* 2004;10:425–433. <http://dx.doi.org/10.1191/1352458504ms1063oa>.
13. Pertwee RG, Fernando SR. Evidence for the presence of cannabinoid CB1 receptors in mouse urinary bladder. *Br J Pharmacol.* 1996;118:2053–2058. <http://dx.doi.org/10.1111/j.1476-5381.1996.tb15643.x>.
14. Freeman RM, Adekanmi O, Waterfield MR, Waterfield AE, Wright D, Zajicek J. The effect of cannabis on urge incontinence in patients with multiple sclerosis: a multicentre, randomised placebo-controlled trial (CAMS-LUTS). *Int Urogynecol J Pelvic Floor Dysfunct.* 2006;17:636–641. <http://dx.doi.org/10.1007/s00192-006-0086-x>.
15. He Z, Charness N, Bian J, Hogan WR. Assessing the comorbidity gap between clinical studies and prevalence in elderly patient populations. In: *IEEE.* 2016:136–139. <http://dx.doi.org/10.1109/BHI.2016.7455853>.
16. Tam CA, Helfand BT, Erickson BA. The Relationship between Diabetes, Diabetes Severity, Diabetes Biomarkers and the Presence of Lower Urinary Tract Symptoms: Findings From the National Health and Nutrition Examination Survey (NHANES). *Urology.* April 2017. <http://dx.doi.org/10.1016/j.urology.2017.03.040>.
17. Mirel LB, Mohadjer LK, Dohrmann SM, et al. National Health and Nutrition Examination Survey: estimation procedures, 2007–2010. *Vital Health Stat.* 2013;2:1–17.
18. Jeong SJ, Yeon JS, Lee JK, et al. Chronic lower urinary tract symptoms in young men without symptoms of chronic prostatitis: urodynamic analyses in 308 men aged 50 years or younger. *Korean J Urol.* 2014;55:341. <http://dx.doi.org/10.4111/kju.2014.55.5.341>.
19. *Compassionate Use of Medical Cannabis Pilot Program Act.*; 2014.
20. Breyer BN, Kenfield SA, Blaschko SD, Erickson BA. The association of lower urinary tract symptoms, depression and suicidal ideation: data from the 2005–2006 and 2007–2008 National Health and Nutrition Examination Survey. *J Urol.* 2014;191:1333–1339. <http://dx.doi.org/10.1016/j.juro.2013.12.012>.

EDITORIAL COMMENT



The authors explore the National Health and Nutrition Examination Survey database regarding the use of tetrahydrocannabinol (THC) and lower urinary tract symptoms (LUTS). This is a very interesting and contemporary subject due to the ongoing discussion on marijuana legalization.

From statistical analysis, they could conclude that THC usage decreases the LUTS. Criticism on the paper should be put on the fact that THC usage was self-reported and even an infrequent usage such as once a month was included as significant in comparison to nonusers.

As there is biochemical evidence of cannabinoid receptors in the detrusor with exquisite inhibitory properties, urologists need to be cognizant THC might be incorporated to the armamentarium to deal with LUTS or for special situations as the ones already in use as for to treat some terminal urological cancer cases or incontinence in multiple sclerosis cases.

SUGGESTED READING

Freeman RM, Adekanmi O, Waterfield MR, Waterfield AE, Wright D, Zajicek J. The effect of cannabis on urge incontinence in patients with multiple sclerosis: a multicentre, randomised placebo-controlled trial (CAMS-LUTS). *Int Urogynecol J Pelvic Floor Dysfunct* 17(6):636-41, 2006

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AUTHOR REPLY



Based upon epidemiological data from the NIH, it has been reported that marijuana is the most widely used illicit drug, with over 22.2 million people using it within the past month.¹ Given increasing pressures to legalize this drug in multiple states, there is an urgent need to elucidate its potential medical benefits versus unrecognized side effects.

One of the main limitations of research on this subject is specifically defining which chemical compounds in marijuana are active and how to generalize the data based upon the frequency and type of use. Unless a clinician is prescribing a specific cannabinoid, most strains of marijuana have a heterogeneous profile containing multiple different cannabinoids as active compounds.² Therefore, defining regular usage in the present cohort is difficult not only based on a subject's frequency of use but also because each chemical concentration level may vary.

While there is no standardized definition for “regular use,” recently proposed definitions vary from weekly to four or more times a week.^{3–5} While our manuscript includes people that may only smoke once monthly, research also suggests that the chronicity of use may also affect patients.⁵ A well-designed prospect trial however, similar to prior studies looking at specific types of patients, using a regulated dose at a regular frequency, could better answer this question.^{6,7} It would be beneficial to discover the minimum tetrahydrocannabinol and/or appropriate cannabinoid dose, as well as dosing schedule, to provide patients with lower urinary tract symptom relief while minimizing potential undesirable side effects.

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References

1. Marijuana. on; 2018. <https://www.drugabuse.gov/publications/research-reports/marijuana>. on.
2. Burgdorf JR, Kilmer B, Pacula RL. Heterogeneity in the composition of marijuana seized in California. *Drug Alcohol Depend.* 2011;117:59–61. <http://dx.doi.org/10.1016/j.drugalcedp.2010.11.031>.
3. Guttmanova K, Kosterman R, White HR, et al. The association between regular marijuana use and adult mental health outcomes. *Drug Alcohol Depend.* 2017;179:109–116. <http://dx.doi.org/10.1016/j.drugalcedp.2017.06.016>.