



HerbClip™

Mariann Garner-Wizard
Jennifer Minigh, PhD
Densie Webb, PhD

Shari Henson
Heather S Oliff, PhD

Brenda Milot, ELS
Marissa Oppel, MS

Executive Editor – Mark Blumenthal

Managing Editor – Lori Glenn

Consulting Editors – Dennis Awang, PhD, Steven Foster, Roberta Lee, MD

Funding/Administration – Wayne Silverman, PhD *Production* – George Solis

FILE: ■Cannabis (*Cannabis sativa*)
■Marijuana
■Product Preference

HC 120661-319

Date: December 29, 2006

RE: Small Trial Examines Product Preference of Medical Cannabis Users

Ware MA, Ducruet T, Robinson AR. Evaluation of herbal cannabis characteristics by medical users: a randomized trial. *Harm Reduct J.* Nov 13, 2006;3:32.

Cannabis (a.k.a. marijuana; *Cannabis sativa*) has shown potential in the treatment of pain, nausea, insomnia, anxiety, muscle spasticity, and other symptoms associated with chronic diseases and their treatments, such as cancer, multiple sclerosis, and HIV/AIDS.¹ More clinical trials are needed to assess the efficacy of cannabis in the treatment of these diseases. The compliance of subjects treated with cannabis is affected by product quality, and the quality of clinical trials is linked to patient compliance. In this randomized, double-blind clinical trial, subjects receiving cannabis for the treatment of chronic pain were asked to rate different cannabis preparations made from the same species. The purpose of this small scale study was to determine the subjects' preferences for different products. The study was not designed to evaluate efficacy or safety.

The subjects (n=7; 5 male, 2 female; mean age: 47 years) were "experienced" cannabis users authorized to possess cannabis for medical purposes under the Canadian Medical Marijuana Access Regulations. The subjects' diagnoses included peripheral neuropathic pain (n=4), multiple sclerosis (n=2), and HIV/AIDS (n=1). The subjects evaluated 4 products that varied in dryness, grind size, and tetrahydrocannabinol (THC) content by answering a questionnaire prior to and 5 minutes after use. The questionnaire was designed for this study and included questions on physical characteristics, ease of preparation, and smoking characteristics. The patients randomly received 1 of the each of the 4 products over a series of 4 sessions. The study was conducted at the Montreal General Hospital in the McGill University Health Centre (Montreal, Canada). The characteristics of the 4 products are shown in the table below.

Product	1	2	3	4
Grind size (mm)	10	5	5	10
THC (g%)	10.6	10.6	6.6	9.6
Humidity (%)	14.4	12	11	11
Drying time (days)	2	4	4	4

Originally, the study had 8 subjects; however, one subject did not attend the final session and was excluded from the final data analysis. There were significant differences between the 4 products' total scores ($P=0.03$), indicating that subjects can distinguish between different cannabis products. Product 1 was rated the best with a total score of 24.57. Of 28 assessments, 18 were done using joints and 10 with pipes. Out of the 18 joint assessments, 16 reported no problems preparing the joints, while 2 subjects rated product 4 very poorly in terms of ease of preparation. Product 2 was rated as having the best smell and humidity ($P=0.21$ and 0.28 , respectively). Product 1 was rated as having the best general appearance ($P=0.03$). Products 1 and 2 were rated equally in terms of color, and were rated superior to products 3 and 4. Product 1 was rated as having the best particle size ($P=0.06$). In terms of smoking characteristics, product 3 was rated as the coolest overall ($P=0.81$). Products 1 and 2 were rated as having less harshness than products 3 and 4. Product 1 was rated as having the best burn rate ($P=0.55$), and product 2 was rated as having the best taste ($P=0.41$).

The results show that the subjects had clear preferences that could affect compliance with treatment regimens. In half of the assessments (14 out of 28), the subjects rated products 1, 3, and 4 as "worse than their usual cannabis." Eleven assessments rated the products as the "same as usual cannabis", including 4 assessments of product 2. Three assessments rated products 1, 2, and 4, respectively, as "better than usual cannabis". Overall, product 1 appears to be preferred over the other products. Over half of the subjects (4 out of 7) would use products 1 and 2 on a regular basis. In addition, over half would not use products 3 and 4 on a regular basis (5 out of 7 and 5 out of 6, respectively). Three subjects rated product 1 as "good or excellent" and 5 subjects rated product 3 as "poor" in terms of overall satisfaction.

In general, these results indicate that subjects prefer cannabis products with higher THC contents, higher humidities, and larger grind sizes. The results also indicate that the subjects and patients receiving cannabis are able to distinguish between different cannabis preparations. Clinical trials with larger sample sizes are needed to confirm these results. In this study, 2 different modes of administration were used (pipes and joints), which could have affected the results. Future studies are needed to assess the effects of different modes of cannabis administration. In addition, the high ambient humidity used when preparing the products (46% vs. the recommended 10-15%) could have affected the results. The authors write that the effects of ambient humidity could be reduced by having subjects remove the product directly from the package rather than going through pharmacy dispensing. In addition, the effects of ambient humidity and rehumidification warrant further study. Future studies on the effect of products with different cannabinoid profiles are also needed. Product 3 was rated relatively poorly in this study and had been initially sent to authorized cannabis users by Health Canada. The authors write that this study does "support a decision by Health Canada made prior to the study in May 2004, to distribute a product...with larger grind size, higher humidity and higher THC content," following negative reports of the product's quality in the media. The authors write that patient feedback should be considered regarding "the supply of a standardized herbal cannabis product within a legal medical access program...to ensure compliance."

—*Marissa Oppel, MS*

References

1. Russo EB, Grotenhermen F, eds. *Handbook of Cannabis Therapeutics: From Bench to Bedside*. Binghamton, NY: The Haworth Press, Inc; 2006.

Enclosure: Referenced article is an Open Access article via BioMed Central.

The American Botanical Council provides this review as an educational service. By providing this service, ABC does not warrant that the data is accurate and correct, nor does distribution of the article constitute any endorsement of the information contained or of the views of the authors.

ABC does not authorize the copying or use of the original articles. Reproduction of the reviews is allowed on a limited basis for students, colleagues, employees and/or members. Other uses and distribution require prior approval from ABC.