A CASE STUDY ON AYURVEDIC MANAGEMENT OF MARIJUANA DRUG ABUSE

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ABSTRACT

The Mexican term 'MARIJUANA'[1] is frequently used in referring to cannabis leaves or other crude plant material in many countries. The cannabis plant has been used as a drug for both recreational and entheogen purposes and in various traditional medicines for centuries. It's unscientific way of use affects mental status which include Euphoria, altered states of mind and sense of time, difficulty in concentrating, impaired short term memory, increased appetite. Even at high doses of consuming also it results in anxiety, delusions and psychosis. This condition can be correlated with *Vataja mada*[2] based upon its presentations. Here it is to discuss about a patient, who is a victim of long term Marijuana abuse and has underwent Ayurveda treatment and got encouraging positive health.

KEYWORDS

Drug abuse. Substance Use Disorders, *Vataja mada, Snehapana,Shirodhara,Sarvanga abhyangam,Ashwasana chikitsa*

INTRODUCTION

It is reported that about 7.2 million[3] Indians had consumed cannabis as their habit. The study conducted in 2019 reveals that, about 147 million people which accounts of 2.5% of the world population habitually consumes cannabis. In Italy consumption of Cannabis is strictly regulated still legal for medical, industrial uses and recreational uses. In DSM-5[4] cannabis is categorised under substance use disorder. The effect of cannabis depends on the dose received and mode of administration. The main reason why most young people use cannabis is to experience a so-called high: mild euphoria, relaxation, and perpetual alterations. Here in this case the factors which led her to use Marujuana were anxiety, sleeplessness etc. When it comes to treatment even though contemporary science has treatments for substance use disorder like Marijuana, ayurveda treatment also provides encouraging results . In ayureda, based on the presented complaints this can be correlate with *Vataja Mada,* which is treated effectively with *virechana* therapies along with *medhya rasayana* as internal medications which gives improvement in behavioural change and cognitive activities. *ashwasana* is the way of counselling through which mind can be made flourished, was also the part of this treatment protocol.

CASE REPORT

A female patient aged 37 years old was around ten years when her parents got divorced, that incident has caused a bad impact on her mind. She was brought up by single parent and has no siblings. Even though she tried to make friends to get of loneliness she couldn't make it. Most of the time she spent time in her room and was depressed and anxious. She found difficulty in sleeping at night so when she was fourteen years she started smoking every night. And the number of cigarette consumed a day has also increased. Later when she was at sixteen she also started Marijuana in the form of weed smoking every day before sleep. Later on that has turned out to be a daily routine like smoking cigarette. Then she reached a stage where she could sleep even after smoking cigarette and weed. As she is in a long term use that caused breathing problems and increased heart rate. So she tried to stop but the withdrawal symptoms like trouble sleeping, mood swings and sleep disturbances. Four and a half year ago, she met with accident later she observed pain in the cervical region which is radiating to right upper limb along with tingling sensation and numbness for which she underwent surgery, after which pain has aggravated to sever and that also became a cause to increase the frequency and dose of marijuana habit.

Personal History
Sleep- Disturbed (difficulty in maintaining and falling in sleep)
Appetite- Irregular, Bowel-Regular, Micturition-Normal
Addictions- 1. Marijuana - everyday at night since at the age of 16yrs
　　　　　　2. Smoking – everyday 1 packet since at the age of 14yrs

General Examination
Pallor was Present,
Icterus, Cyanosis, Clubbing, Oedema and Lymphadenopathy was absent
There were no any significant finding in the systemic examination.

Investigations
Haematological:
Hb-13.3gm%, Total count of WBC- 9600cells/cu.mm,
Serum creatinine-0.67mg/dl
Serum uric acid-4.4mgldl
Liver Function Test:
SGPT/AST-20.0
SGPT/ALT- 13.0
Bleeding and clotting time- normal, FBS-90mg/dl, Lipid profile -Normal, serum electrolyte -Normal, HBA1c-5.5%, mean blood glucose- 110mg/dl

Mental Status Examination
1. General appearance and behaviour- Lean, groomed, self-care maintained
　　　a. Attitude towards examiner-co-operative
　　　b. Comprehension-Intact
　　　c. Gait and Posture-Normal
　　　d. Motor activity- Normal
2.Speech
　　　a. Rate and quantity of speech- Normal
　　　b. Volume and tone of speech -Increased
3. Mood and Affect-sad
4.Thought- Depressive and flight of thoughts
　　　a. Stream and form -Disturbed
　　　b. Content- Negative
5.Perception-False perception absent
6.Cognition
　　　a. Consciousness -Alert
　　　b. Orientation to time, place and person - Intact
　　　c. Attention-Normal
　　　d. Concentration- Normal
e. Memory –Slightly impaired
7.Insight-Present
8.Judgement- Absent

DRUG ABUSE SCREENING TEST -10 (DAST-10)[6]

	Questions refer to the past 12 months	YES	NO
1	Have you used drugs other than those required for medical reasons?	1	
2	Do you abuse more than one drug at a time?	1	
3	Are you always able to stop using drugs when you want to? (If never use drugs, answer "Yes."		1
4	Have you had "blackouts" or "flashbacks" as a result of drug use?	1	
5	Do you ever feel bad or guilty about your drug use? If never use drugs, choose "No."		1
6	Does your spouse (or parents) ever complain about your involvement with drugs?	1	
7	Have you neglected your family because of your use of drugs?	1	
8	Have you engaged in illegal activities in order to obtain drugs?		1
9	Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	1	
10	. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convul sions, bleeding, etc.)	1	

SI.NO.	VARIENTS OF *ASHTAVIBRAMA*	
1.	*Manas*	*Atichinthana* (excessive thinking)

2.	*Budhi*	*Nishchayathmikatwa* affected (uncertainity)
3.	*Samnja jnana*	Intact
4.	*Smruthi*	*Ayathavatha smarathi*(negative thoughts)
5.	*Bhakti*	*Anicha*(lack of desire I n previous pleasure)
6.	*Sheela*	Change in basic routine life
7.	*Cheshta*	Increased psychomotor activities
8.	*Achara*	Loss of interest in cultural and spiritual practices

INTERVENTION

First day *Amapachana* done with *Chitrakadi vati* one tab thrice a day, After that *virechana , which followed Snehapana* with *Brahmi gruta* and *Sarvanga abyanga* with *Mahanarayana thaila for 4 days.*

Shirodhara with *ksheerabala thaila* for 5 days *After virechana, was also carried out.during these days ashwasana was done every day.*

RESULTS

MENTAL STATUS EXAMINATION VARIENTS	AFTER TREATMENT IMPROVEMENTS	VARIENTS (ASHTAVIBRAMA)	AFTER TREATMENT IMPROVEMENTS
General appearance and behaviour	40%	*Manas*	20%
Speech	30%	*Budhi*	20%
Mood and Affect	40%	*Samnja jnana*	30%
Thought	40%	*Smruthi*	Intact
Perception	40%	*Bhakti*	30%
Cognition	30%	*Sheela*	20%
Insight	Level 4, reduced to level 5	*Cheshta*	20%
Judgement	20%	*Achara*	30%

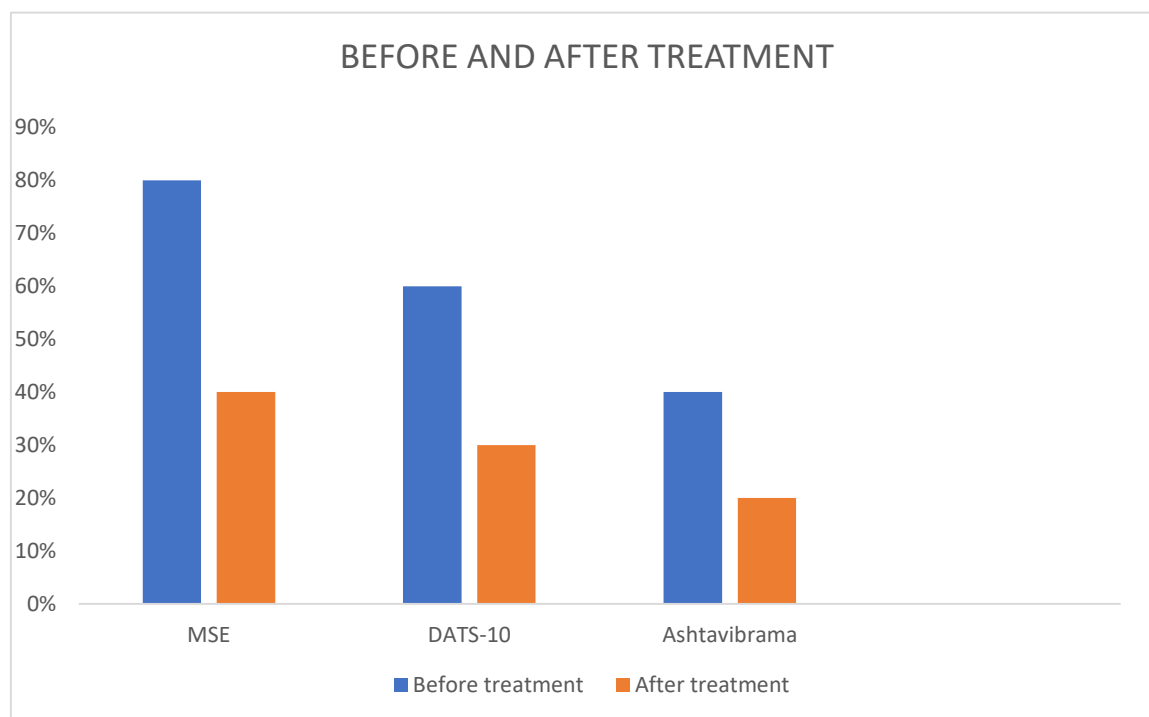| VARIANTS	AFTER TREATMENT IMPROVEMENTS
DAST-10	60%

DISCUSSION

Cannabis in India has been known to be used at least as early as 2000BCE for medicinal purposes. And now the study conducted in 2019 it is reported that about 7.2 million Indians had abuse of it. In this case study, the patient has mainly presented with anxiety, sleeplessness, restlessness, rapid heart rate, dry mouth, diminished coordination, paranoid and flight of thoughts, difficulty in concentrating, and also mood swings. Through Drug Abuse Screening Test (DAST-10) present case has found to be with score 7 and suggestive of treatment. Assessment of mano vishaya like *Chintyam, vicharayam, ooham* were found to be affected and *budhi,manas,bhakti,Sheela,cheshta,achara* of *ashtavibrama* were also afflicted.

Mode of action-Tetrahydrocannabinol (THC) is the main psychoactive component of cannabis. THC's [7]chemical structure is similar to the brain chemical anandamide. Similarly in structure allows the body to recognize THC and to alter normal brain communication. Endogenous cannabinoids such as anandamide function as neurotransmitters .They affect brain areas that influence pleasure, memory, thinking, concentration, movement, coordination, and sensory and time perception. Because of this similarity, THC is able to attach to molecules called cannabinoid receptors on neurons in these brain areas and activate them resulting in disrupting various mental and physical functions. The neural communication network that uses these cannabinoid neurotransmitters, known as the endocannabinoid system, plays a critical role in the nervous system's normal functioning, so interfering with it can have profound effects. As a result using marijuana causes impaired thinking and interferes with a person's ability to learn and perform complicated task. And also THC disrupts functioning of the cerebellum and basal ganglia, brain area that regulate balance, posture, coordination. Currently the FDA[8](food and drug administration)has not approved any medications for the treatment of Marijuana use disorder(substance use disorder).And therapies like cognitive-behavioural, contingency management and motivational enhancement are suggested. Ayurveda treatment mainly focuses on enhancing mental health.Here *amapachana* was done with *chitrakadi vati.* After that *snehapana* with *Brahmi gruta* was given to the patient as *virechana*. *Brahmi*[9] being a *medhya* drug is recommended for various psychosomatic and psychiatric disorders. Most of the formulations acting on psyche are ghee based. It is well established that the drugs having its action on brain should have the capacity to cross the blood–brain barrier and for that purpose ghee is the best adjuvant. Later *Shirodhara* with *Ksheerabala taila* was done. Clinically the efficacy of *Shirodhara*[10] is proved. The continuous flow of warm liquid on the forehead for such a long period will cause mild vasodilatation. It improves the circulation in these areas and help in regularize the blood supply of the brain.Temperature of the taila activate the function of thalamus and the basal forebrain which then brings the amount of serotonin and catecholamine to the normal stage. *Sarvanga abhyanga* with *Mahanarayana taila* was done and *ashwasana chikitsa* through counselling was given.

Mental derangement in this case was assessed through DAST-10 questionnaire score, self assessment score of Mental status examination scale and *ashtavibrama*, before and after the treatment. It is found that 40 % in DAST- score, 30% in MSE and 24.2% in *ashtavibrama* improvements are evident. Same is shown in the graph below.

CONCLUSION

Graphical representation of improvement assessed through mental status assessed through MSE, DATS 10 and *Ashtavibrama* scales.

BEFORE AND AFTER TREATMENT

REFFERENCE

1. NIDA. 2019, December 24. Marijuana DrugFacts. Retrieved from https://www.drugabuse.gov/publications/drugfacts/marijuana on 2022, January 12.

2. P.Gyanendra'sanskrit text with English commentary'on Harita Samhita of Acharya Harita,chapter16 Madatyaya chikitsa,verse3,Varanasi:Choukamba samskrit series office 2014,pp603-4.

3. https://www.businessinsider.in/ganja-cannabis-addiction-on-rise-after-alcohol-says-aiims-study/articleshow/68081096.cms.Bussiness insider.Retrived 16 March 2019.

4. David J. Kupfer,MD, Darrel A. Regier, M.D.,M.P.H,Chareles .P.O'Brien, M.D.,Ph.D.,Thomas J.Crowley, M.D. Analyses related to the development of DSM-V criteria for substance related disorders. 2017;978-93-8621-96-7.

5. S.Ram Karan.'cakrapani dutta's Ayurveda Dipika','caraka samhita'caraka 9 Unmada chikitsa,verse85-86,Varanasi:Chaukamba krishnadas academy 2010,pp437.

6. Maisto SA, Carey MP, Carey KB, Gordon CM, Gleason JR. Use of the AUDIT and the DAST-10 to identify alcohol and drug use disorders among adults with a severe and persistent mental illness. Psychol Assess. 2000 Jun;12(2):186-92. doi: 10.1037//1040-3590.12.2.186. PMID: 10887764.

7. NIDA. 2021, April 13. How does marijuana produce its effects?. Retrieved from https://www.drugabuse.gov/publications/research-reports/marijuana/how-does-marijuana-produce-its-effects on 2022, January 14

8. NIDA. 2021, April 13. Available Treatments for Marijuana Use Disorders. Retrieved from https://www.drugabuse.gov/publications/research-reports/marijuana/available-treatments-marijuana-use-disorders on 2022, January 14

9. Gubbannavar, J., Chandola, H., Harisha, C., Kalyani, R. and Shukla, V., 2012. Analytical profile of Brahmi Ghrita: A polyherbal Ayurvedic formulation. *AYU (An International Quarterly Journal of Research in Ayurveda)*, [online] 33(2), p.289. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3611637/> [Accessed 10 April 2012].

10. Gupta, N., & Mangal, G. (2019). A CONCEPTUAL STUDY ON SHIRODHARA PROCEDURE. *International Journal Of Research In Ayurveda And Pharmacy*, *10*(3), 10-12. doi: 10.7897/2277-4343.100353.Available at: https://www.researchgate.net/publication/335228848/[Accessed 26 Apirl 2019].