

## CANNABIS CONSUMPTION AND THE MOST FREQUENT HEALTH PROBLEMS IN PEOPLE WITH HIV: A QUANTITATIVE-QUALITATIVE-MIXED APPROACH

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**Abstract:** People with HIV face multiple illnesses derived from psychological, social, behavioral and medical factors., the health problems they face include sleep disturbances, anxiety, depression, malnutrition and tuberculosis. Thus, they resort to the use of substances as an alternative to solve these problems or to improve their quality of life. There is evidence of cannabis use to treat HIV symptoms such as nausea, lack of appetite, pain and anxiety. However, governments have not approved its use because the benefits must be greater than the risks of its consumption. The present study was designed to determine the association of cannabis consumption with the most frequent health problems in people with HIV in order to establish if cannabis consumption has a protective or risk effect. Material and methods: The methodology used in this study was qualitative based on the development of health surveys for people with HIV, and logistic regression analysis to model the association among health variables. Results: Participants who reported frequent cannabis use are convinced that the benefits of cannabis use in their health condition are greater than the risks. This plant is attributed effects on the control of hypertension, diabetes, anxiety, sleep disturbances and depression. Conclusions: There is an association among the variables under study, although it was not possible to sustain it statistically. It should be noted that a risk association was found between the use of cannabis and tuberculosis (aOR 9.32 p <0.05).

**Keywords:** Cannabis consumption, Health, HIV, Risk factors, Tuberculosis, Qualitative methodology

### REFERENCES

- Alvarez-Licon, N.E., Sevilla-Gonzalez, MDLL., Alvarez-Sevilla, R. and Pedroza-Escobar, D. (2015). Prohibition creates monsters, is there krokodil in Mexico?. *Int j. adv. soc. sci. humanit.* 3 : 25-32.
- Appendino, G., Gibbons, S., Giana, A., Pagani, A., Grassi, G. and Stavri, M., *et al.* (2008). Antibacterial cannabinoids from Cannabis sativa: A structure-activity study. *J. Nat. Prod.* 71 : 1427-1430.
- Arora, A., Kannan, S., Gowri, S., Choudhary, S., Sudarasan, S. and Khosla, P.P. (2016). Substance abuse amongst the medical graduate students in a developing country. *Indian J Med Res.* 143 : 101-3.
- Baron, E.P., Lucas, P., Eades, J. and Hogue, O. (2018). Patterns of medicinal cannabis use, strain analysis, and substitution effect among patients with migraine, headache, arthritis, and chronic pain in a medicinal cannabis cohort. *J Headache Pain.* 19 : 37.
- Chatkin, J.M., Zabert, G., Zabert, L., Chatkin, G., Jiménez-Ruiz, C.A. and de Granda-Orive, J.L., *et al.* (2017). Lung Disease Associated With Marijuana Use. *Arch Bronconeumol.* 53 : 510-515.
- Chavan, B.S., Garg, R., Das, S., Puri, S. and Banavaram, A.A. (2019). Prevalence of substance use disorders in Punjab: Findings from National

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- Mental Health Survey. *Indian J Med Res.*149 : 489-496.
- EISohly, MA., Radwan, M.M., Gul, W., Chandra, S. and Galal, A.** (2017). Phytochemistry of Cannabis sativa L. In: Kinghorn A., Falk H., Gibbons S., Kobayashi J, editors. Phytocannabinoids Progress in the Chemistry of Organic Natural Products. New York: Springer. p. 103 - 110.
- Fogarty, A., Rawstorne, P., Prestage, G., Crawford, J., Grierson, J. and Kippax, S.** (2007). Marijuana as therapy for people living with HIV/AIDS: social and health aspects. *AIDS Care.*19 : 295–301.
- French, C.E., Coope, C.M., McGuinness, L.A., Beck, C.R., Newitt, S. and Ahyow, L., et al.** (2019). Cannabis use and the risk of tuberculosis: a systematic review. *BMC Public Health.*19 : 1006.
- Jaisooriya, T.S., Beena, K.V., Beena, M., Jose, D.C., Ellangovan, K., Thenarasu, K., et al.** (2016). Prevalence & correlates of tobacco use among adolescents in Kerala, India. *Indian J Med Res.*144 : 704-711.
- Lee, J.T., Saag, L.A., Kipp, A.M., Logan J., Shepherd B.E., Koethe, J.R., et al.** (2019). Self-reported Cannabis Use and Changes in Body Mass Index, CD4 T-Cell Counts, and HIV-1 RNA Suppression in Treated Persons with HIV. *AIDS Behav.* doi: 10.1007/s10461-019-02430-x [Epub ahead of print]
- Lim, A.C. and Thames, A.D.** (2018). Differential relationships between cannabis consumption and sleep health as a function of HIV status. *Drug Alcohol Depend.*192 : 233-237.
- Lin, L.A., Ilgen, M.A., Jannausch, M. and Bohnert, K.M.** (2016). Comparing adults who use cannabis medically with those who use recreationally: Results from a national sample. *Addict Behav.*61 : 99-103.
- Musty, R.E. and Rossi, R.** (2001). Effects of smoked cannabis and oral delta-9-tetrahydrocannabinol on nausea and emesis after cancer chemotherapy: a review of state clinical trials. *J Cannabis Ther.*1 : 29-42.
- Oeltmann, J.E., Oren, E., Haddad, M.B., Lake L.K., Harrington, T.A. and Ijaz, K., et al.** (2006). Tuberculosis outbreak in marijuana users, Seattle, Washington, 2004. *Emerg Infect Dis.*12 : 1156-1159.
- Pedroza-Escobar, D., Serrano-Gallardo, L.B., Ibarra-Arriaga, L.A. and Escobar-Ávila, EAD** (2017). Protective effect of yoga against tuberculosis in people living with HIV. *Indian J Tradit Knowle.* 16 : 101-104.
- Pedroza-Escobar, D., Serrano-Gallardo, L.B., Ibarra-Arriaga, L.A. and Escobar-Ávila, EAD** (2017). Yoga practice improves sleep quality of people living with HIV on ART. *Indian J Tradit Knowle.*16 : 105-108.
- Pedroza-Escobar, D., Sevilla-González, MDLL., Escobar-Ávila, EAD. and Serrano-Gallardo, L.B.** (2016). Using of medicinal plants among people living with HIV. *J Plant Dev Sci.*8 : 311-314.
- Prentiss, D., Power, R., Balmas, G., Tzuang, G. and Israelski, D.M.** (2004). Patterns of Marijuana Use Among Patients With HIV/AIDS Followed in a Public Health Care Setting. *J Acquir Immune Defic Syndr.*35 : 38-45.
- Reid, P.T., Macleod, J. and Robertson, J.R.** (2010). Cannabis and the lung. *J R Coll PhysiandEdinb.*40: 328-334.
- Ribeiro, L. and Ind, P.W.** (2018). Marijuana and the lung: hysteria or cause for concern?. *Breathe (Sheff).*14 : 196-205.
- Rieder, S.A., Chauhan, A., Singh, U., Nagarkatti, M. and Nagarkatt, P.** (2010). Cannabinoid-induced apoptosis in immune cells as a pathway to immunosuppression. *Immunobiology.*215 : 598-605.
- Rossato-Silva, D., Muñoz-Torrico, M., Duarte, R., Galvao, T., Bonini, E.H. and Arbex, F.F., et al.** (2018). Risk factors for tuberculosis: diabetes, smoking, alcohol use, and the use of other drugs. *J Bras Pneumol.*44 : 145-152.
- Sheehan, T.J., Hammett, H.J., Beasley, R. and Fitzmaurice, P.S.** (2018). Chemical and physical variations of cannabis smoke from a variety of cannabis samples in New Zealand. *Forensic Sci Res.*4 : 168-178.
- Singh, S. and Balhara, Y.P.S.** (2017). A review of Indian research on co-occurring cannabis use disorders & psychiatric disorders. *Indian J Med Res.*146 : 186-195.
- Tashkin, D.P.** (2013). Effects of marijuana smoking on the lung. *Ann Am Thorac Soc.*10 : 239-247.
- Tashkin, D.P. and Roth, M.D.** (2019). Pulmonary effects of inhaled cannabis smoke. *Am J Drug Alcohol Abuse.*12:1-14.
- Torres-Esteche, V.** (2016). [Compromiso respiratorio en fumadores de marihuana]. *Rev. Urug. Med. Interna.* 16 : 44-51.
- Vidot, D.C., Lerner, B. and Gonzalez, R.** (2017). Cannabis Use, Medication Management and Adherence Among Persons Living with HIV. *AIDS Behav.* 21: 2005-2013.
- Wardell, J.D., Shuper, P.A. and Hendershot, C.S.** (2018). A longitudinal investigation of the association between cannabis use and alcohol use among people living with HIV. *Drug Alcohol Depend.*193 : 7-13.