

Cancer Association in Drug Abuse Disorders: A latest Update

Smita Sharma^{1*}, Rami Abdullah Ali Al Daghreer², Hamad Aldaghreer³

¹MD, DTCD, Clinical Biochemist, Ministry of Health, Saudi Arabia

²Masters Biotechnology, Director Toxicology, Ministry of Health, Saudi Arabia

³MBBS, Infection Control Officer, Ministry of Health, Saudi Arabia

***Corresponding Author:** Smita Sharma

MD, DTCD, Clinical Biochemist, Ministry of Health, Saudi Arabia

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Abstract: Drug abuse is the use of drugs in amounts or by methods that is harmful for the health. Drug use disorders (DUD) are associated with a range of adverse health outcomes including increased mortality rates [1, 2]. For example, patients in opioid substitution treatment (OST) are shown to have significantly higher non-drug-related mortality including Cancer than the general population [3, 4]. According to the American Cancer Society, substance abuse and addiction make up about 30% of all cancer deaths. In this review article we tried to summarize that drug abuse disorders are risk factors for Cancers.

Keywords: DUD, Drug abuse, OST.

INTRODUCTION

The role of Substance abuse in the pathogenesis of cancer is studied systematically, since there are research data supporting the mutagenic effects of certain substances. It has been supported that a possible dysregulation of the immune system is linked to the oncogenic processes induced by Substances of Abuse. Specifically, Opioids are the first addictive substances that have been identified as oncogenic factors. However, conflicting results have been offered by experimental animal studies, which showed that Opioids, such as Morphine, depending on the dosage administered, may not only enhance the process of tumor growth, but also inhibit it. Additionally, research data indicate that the use of Cannabis may be associated with Cancer, either as an independent factor or in relation to other mutagenics, although it is not yet clear to which extent these effects may be connected to the disease, especially once the consumption of tobacco and alcohol by these patients are taken into account. However, it has been argued that certain cannabinoids may have biological -anticancer- activities which could be used therapeutically without being accompanied by the corresponding 9-tetrahydrocannabinol psychoactive effects.

Alcohol is a risk factor for developing head and neck cancer, and epidemiological studies indicate that the higher the consumption of alcohol, the more mortality due to cancer increases. There is also strong evidence showing that alcohol consumption can lead to various types of cancer, with most being a form of oral, liver, and colon cancer [5].

In addition, illicit drugs such as Cocaine and Heroin often get mixed with cancer-causing cutting agents. Addiction to illicit drugs increases cancer risk; when carcinogenic substances such as tobacco and alcohol are mixed together, risk of cancer only increases even further. In addition to lung, mouth, and throat cancer, tobacco can also lead to cancer of the bladder, kidney, liver, stomach, pancreas, colon and rectum, and cervix, and can even lead to leukemia. Chewing tobacco, also known as snuff, is a form of smokeless tobacco that can cause oral, esophageal, and pancreatic cancer. Specific components have been identified in tobacco, which are considered to be carcinogenic and responsible for tumor development in various sites. Moreover, complicated psychiatric problems arise due to substance abuse in cancer patients, either in the context of pain treatment, or under pre-existing dependence. The rational use of opioid analgesics, when it is medically required as suggested by the health professionals specialized in the treatment of

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acute pain in cancer patients, could be a therapeutic option. Substance abuse reduces treatment compliance, worsens cancer prognosis and seems to be a negative factor for the quality of life of these patients [6].

Women with DUD were identified as a risk group for incident, fatal and metastasized breast cancer. Cancer screening attendance and other healthcare seeking barriers are likely to affect the risk increase among women who use drugs [7]. Opioid dependence was associated with lower breast cancer mortality compared to the general female population in Australia [4].

Australian studies have shown that women with DUD have increased cervical cancer incidence [8] and cervix cytological abnormalities [9] and that opioid dependence is associated with higher cervical cancer mortality compared to the general population. Swedan studies have shown that women with DUD were thus identified as a risk group for incident cervical cancer [10].

It has been shown that cannabis use is associated with higher incidence of prostate cancer [11], and that substance use disorder (SUD; alcohol included) is associated with adverse health outcomes in men with advanced stage prostate cancer [12, 13].

Swedish study showed that men with DUD have an increased risk of fatal prostate cancer, possibly related to under treatment in this patient population [14].

CONCLUSION

Drug use disorders are significant risk factors for cancers. So our article should raise attention among medical staff and decision-makers towards disadvantaged group patients with Drug abuse disorders should be screened early for cancer risk prevention.

CONFLICTS OF INTERESTS

There is no conflict of interests.

REFERENCES

1. Nyhlén, A., Fridell, M., Hesse, M., & Krantz, P. (2011). Causes of premature mortality in Swedish drug abusers: a prospective longitudinal study 1970–2006. *Journal of forensic and legal medicine*, 18(2), 66-72.
2. von Greiff, N., Skogens, L., Berlin, M., & Bergmark, A. (2018). Mortality and Cause of Death—A 30-Year Follow-Up of Substance Misusers in Sweden. *Substance use & misuse*, 53(12), 2043-2051.
3. Gao, L., Robertson, J. R., & Bird, S. M. (2019). Non-drug-related and opioid-specific causes of 3262 deaths in Scotland's methadone-prescription clients, 2009–2015. *Drug and alcohol dependence*, 197, 262-270.
4. Randall, D., Degenhardt, L., Vajdic, C. M., Burns, L., Hall, W. D., Law, M., & Butler, T. (2011). Increasing cancer mortality among opioid-dependent persons in Australia: a new public health challenge for a disadvantaged population. *Australian and New Zealand journal of public health*, 35(3), 220-225.
5. Rungay, H., Shield, K., Charvat, H., Ferrari, P., Sornpaisarn, B., Obot, I., ... & Soerjomataram, I. (2021). Global burden of cancer in 2020 attributable to alcohol consumption: a population-based study. *The Lancet Oncology*, 22(8), 1071-1080.
6. Moussas, G. I. (2017). A G Papadopoulou. *Substance abuse and cancer*, 28(3), 234-241.
7. Dahlman, D., Magnusson, H., Li, X., Sundquist, J., & Sundquist, K. (2021). Drug use disorder and risk of incident and fatal breast cancer: a nationwide epidemiological study. *Breast cancer research and treatment*, 186(1), 199-207.
8. Reece, A. (2007). Lifetime prevalence of cervical neoplasia in addicted and medical patients. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47(5), 419-423.
9. Soccio, J., Brown, M., Comino, E., & Friesen, E. (2015). Pap smear screening, pap smear abnormalities and psychosocial risk factors among women in a residential alcohol and drug rehabilitation facility. *Journal of Advanced Nursing*, 71(12), 2858-2866.
10. Dahlman, D., Li, X., Magnusson, H., Sundquist, J., & Sundquist, K. (2021). Cervical cancer among Swedish women with drug use disorders: A nationwide epidemiological study. *Gynecologic Oncology*, 160(3), 742-747.
11. Skeldon, S. C., & Goldenberg, S. L. (2014). Urological complications of illicit drug use. *Nature Reviews Urology*, 11(3), 169-177.
12. Chhatre, S., Metzger, D. S., Malkowicz, S. B., Woody, G., & Jayadevappa, R. (2014). Substance use disorder and its effects on outcomes in men with advanced-stage prostate cancer. *Cancer*, 120(21), 3338-3345.
13. Jayadevappa, R., & Chhatre, S. (2016). Association between age, substance use, and outcomes in Medicare enrollees with prostate cancer. *Journal of geriatric oncology*, 7(6), 444-452.
14. Dahlman, D., Li, X., Crump, C., Sundquist, J., & Sundquist, K. (2022). Drug use disorder and risk of incident and fatal prostate cancer among Swedish men: a nationwide epidemiological study. *Cancer Causes & Control*, 33(2), 213-222.