

Background

- Cannabis is the most widely used psychoactive substance globally. The proportion of young adults (19-30 y) who reported past-year cannabis use reached 43% in 2021.
- Electronic cigarettes (e-cig) have gained popularity as a perceived safer alternative to traditional tobacco smoking and an harm reduction aid.
- Despite the decrease in combustible tobacco use, prevalence of cannabis and tobacco products co-use has increased steeply.
- Co-users had higher blood and urine levels of several smoke-related toxic chemicals such as naphthalene, acrylamide, and acrylonitrile metabolites than exclusive users.
- It is essential to understand the effects of cannabis use and co-use with tobacco and e-cigs on oral inflammation.

Aim

To characterize the oral inflammatory patterns among cannabis smokers, tobacco smokers, and e-cig users.

Research Design & Methodology

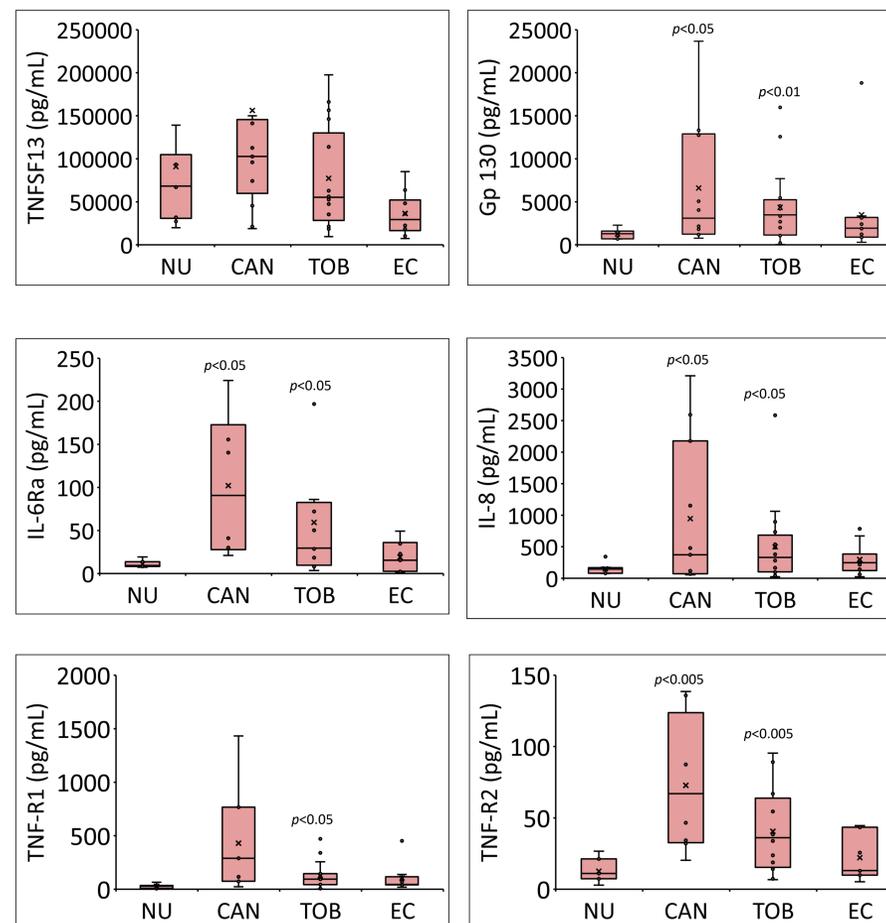
- Upon ethical committee approval, non-users (NU), exclusive cannabis smokers (CAN), exclusive e-cig users (EC), and combustible tobacco users (TOB) were recruited for this study.
- Participants' cannabis and tobacco products use habits were collected by completing a secured survey.
- Eligible participants were invited to our in-house study facility to complete a 30 minutes visit. Participants were asked to complete a brief questionnaire and saliva sample was collected during the study session.
- Saliva samples were tested for 37 inflammation markers using a multiplex immunoassay (Bio-plex Pro Human inflammation panel-1, Bio Rad, USA).
- Plates were read using Bio-Plex array reader and the data analyzed using Bio-Plex manager software.
- Data analysis was performed using ANOVA and independent t-tests.

Results

Table 1. Demographic Characteristics

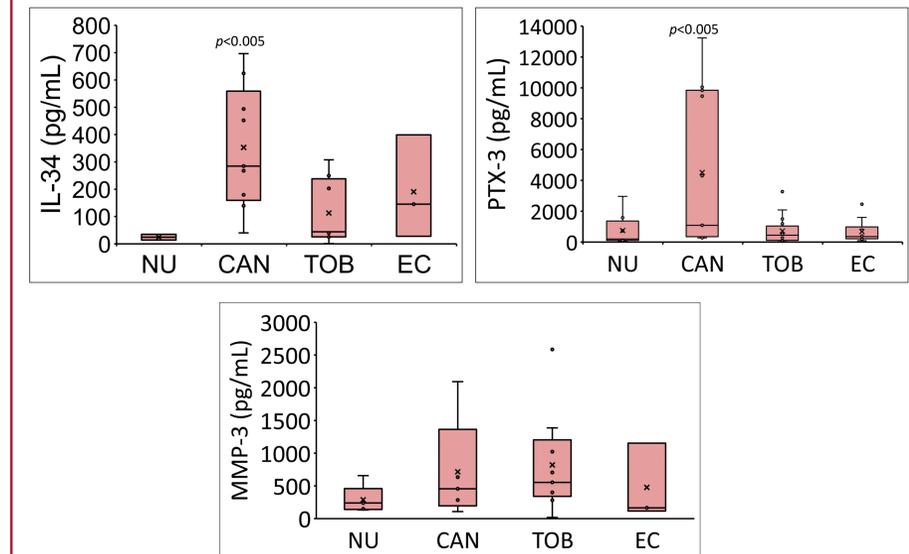
	NS	CAN	TOB	EC
N (#)	8	11	15	10
Age (Mean±SD)	28±5	35±10	32±4	25±5
Male : Female	4:4	3:8	7:8	5:5
Product Use Years Median (Mean±SD)	NA	6 (7±6)	14 (14±7)	2 (2.5±2)

Figure 1. Impact of cannabis and tobacco products use on oral inflammation



Oral inflammation markers were measured in participants saliva using a panel of 37 inflammation markers (Bio-plex).

Results



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Conclusion

- Our initial findings indicate distinct oral inflammatory patterns among cannabis smokers, combustible tobacco smokers, and e-cig users.
- Pro-inflammatory markers were increased in combustible cannabis and tobacco users. e-cig users showed an increase but didn't reach significance.
- Chronic inflammation is recognized as a significant health risk factor, with a critical role in cancer development and progression. Further research is needed to better elucidate the implications of the varied inflammation patterns observed across different product users.

Funding

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