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BARCELONA Spain, 4-6 September

UCL

Prevalence and demographics of marijuana users in a Lung Cancer Screening cohort

A. Bhamani, J. L. Dickson, C. Horst, S. Tisi, H. Hall, A. Creamer, R. Prendecki, J. Mccabe, S. L. Quaife, F. Bojang, D. Arancon, K. Gyertson, A. M. Mullin, J. Teague, L. Farrelly, A. Hackshaw, S. M. Janes

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Cancer Research UK and UCL Cancer Trials Centre

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Aims / Learning objectives

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1. To determine the proportion of individuals in a Lung Cancer Screening (LCS) cohort who report a regular marijuana smoking history
2. To determine the number of current, regular marijuana smokers in this cohort
3. To assess the demographics of regular marijuana users in comparison to the rest of the study cohort

Background

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- Marijuana is the most widely used illicit drug in the world
- The prevalence of marijuana use in older populations is on the rise
- According to survey in USA, the past-year prevalence of marijuana use among those ≥ 50 years old increased by 71.4% from 2006 to 2013 (Han et al., 2017)
- Marijuana use has been shown to cause basal and goblet cell hyperplasia, inflammation, and squamous metaplasia in tracheobronchial mucosa
- Despite this, there is no conclusive evidence for an increased risk of lung cancer amongst long term marijuana smokers; however, the quality of data is limited by small sample sizes

Relevance to Lung Cancer Screening

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- Current risk assessment criteria for inclusion in Lung Cancer Screening (LCS) programmes are based on a history of cigarette smoking
- History of marijuana use is not considered
- Marijuana smokers with no significant history of cigarette use may, therefore, be excluded
- An association between marijuana smoking and the development of bullous emphysema visible on Computed Tomography (CT) scans has been consistently reported in case reports and small cohort studies
- Presence of emphysema on CT is known to be associated with a greater risk of developing lung cancer and increased lung cancer mortality when adjusted for other risk factors

Methods

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- The SUMMIT Study [NCT03934866] is a prospective observational cohort study which aims to assess the implementation of Low Dose Computed Tomography (LDCT) scanning for LCS in a high-risk population and validate a multi-cancer early detection blood test.
- 55-77 year olds with documented smoking histories within past 20 years invited to attend Lung Health Check to assess eligibility for LCS
- Eligibility based on meeting either the 2013 United States Preventive Services Task Force (USPSTF) LDCT screening criteria or having a ≥1.3% risk of developing lung cancer over the next six years base on the Prostate, Lung, Colorectal and Ovarian (PLCOm2012) risk score

Methods

- Individuals attending LHC also asked if they had ever smoked products other than cigarettes, including marijuana
- A history of regular marijuana use was defined as having ever smoked marijuana at least once a week for at least one year
- Those self reporting a regular marijuana smoking history were asked if they were current users
- Other questions assessed the duration of marijuana smoking history and number of joints smoked per week

Prevalence of marijuana use amongst study participants

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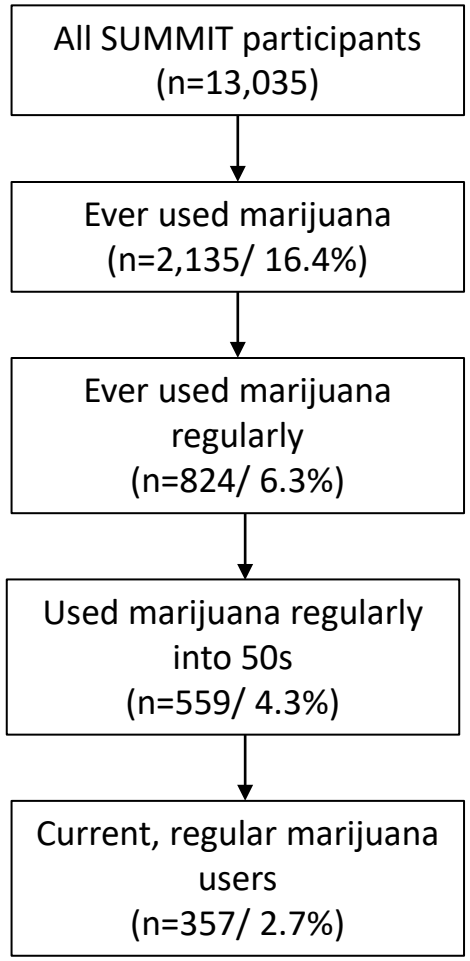

Comparison with rest of cohort

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	Current or former regular marijuana users (n=824)	All other study participants (n=12,211)	p-value
Mean age	63.15 (SD = 5.403)	65.54 (SD = 6.119)	<0.001
Gender			
Male	613 (74.4%)	6878 (56.3%)	<0.001
Female	211 (25.6%)	5333 (43.7%)	
Smoking status			
Current	471 (57.2%)	5,905 (48.4%)	<0.001
Ex	353 (42.8%)	6,306 (51.6%)	
Highest level of education			
Completed further degree (Masters or PhD)	63 (7.6%)	579 (4.7%)	<0.001
Completed Bachelors degree or equivalent)	136 (16.5%)	1,458 (11.9%)	<0.001
Completed further education but not degree	73 (8.9%)	1,026 (8.4%)	0.648
Completed A-levels or equivalent	80 (9.7%)	1,320 (10.8%)	0.323
Completed O-levels or equivalent	190 (23.1%)	2,916 (23.9%)	0.592
Finished school at or before fifteen	282 (34.2%)	4,912 (40.2%)	<0.001

Conclusion

- 6.3% of participants reported a history of regular marijuana use
- Compared to entire study cohort, they were more likely to be males, current cigarette smokers and have higher education degrees
- Analysis ongoing to assess prevalence of airflow obstruction and emphysema amongst regular marijuana smokers
- Further research will determine the independent impact of marijuana use on lung cancer risk

List of references

- World Health Organisation. Alcohol, Drugs and Addictive Behaviours Unit. https://www.who.int/teams/mental-health-and-substance-use/alcohol-drugs-and-addictive-behaviours/drugs-psychoactive/cannabis.
- Fligiel SE, Roth MD, Kleerup EC et al. Tracheobronchial histopathology in habitual smokers of cocaine, marijuana, and/or tobacco. Chest. 1997 Aug;112(2):319-26.
- Zhang LR, Morgenstern H, Greenland S et al. Cannabis smoking and lung cancer risk: Pooled analysis in the International Lung Cancer Consortium. Int J Cancer. 2015 Feb 15; 136(4): 894–903.
- Lloyd SL, Striley CW. Marijuana Use Among Adults 50 Years or Older in the 21st Century. Gerontol Geriatr Med. 2018 Jan-Dec; 4: 2333721418781668.
- Han BH, Sherman S, Mauro PM, Martins SS, Rotenberg J, Palamar JJ. Demographic trends among older cannabis users in the United States, 2006-13. Addiction. 2017 Mar;112(3):516-525.
- Li Y, Swensen SJ, Karabekmez et al. Effect of emphysema on lung cancer risk in smokers: a computed tomography-based assessment. Cancer Prev Res (Phila). 2011 Jan;4(1):43-50. doi: 10.1158/1940-6207.CAPR-10-0151.

Acknowledgements

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- SUMMIT Study team
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THE SUMMIT STUDY IT'S ABOUT TIME

Cancer Research UK and UCL Cancer Trials Centre
90 Tottenham Court Road, London, W1T 4TJ
Enquiries: +44 (0)20 7679 9898, F: +44 (0)20 7679 9899

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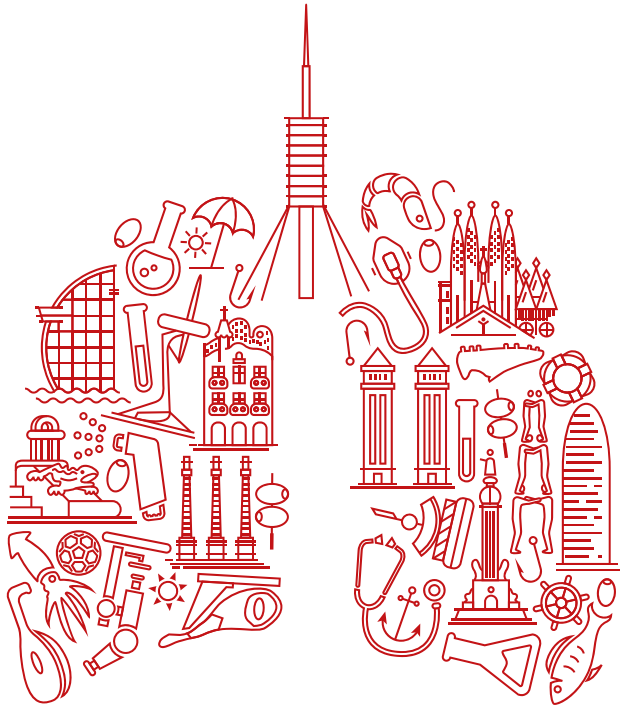

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