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Mitchell, C. and Lawson, R. (2020) Screening heroin smokers' lung function at community care clinics. Chest, 157 (3). pp. 484-486. ISSN: 0012-3692

https://doi.org/10.1016/j.chest.2020.01.006

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Mitchell, C orcid.org/0000-0002-4790-0095 and Lawson, R (Accepted: 2020) Screening heroin smokers lung function at community care clinics. Chest, 157 (3). ISSN 0012-3692 (In Press)

Editorial for 'Chest':
Screening heroin smokers lung function at community care clinics
Accepted version final draft post-refereeing: 13th January 2020.

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Background

The UK has the highest prevalence of opioid use disorder (OUD) in Europe with approximately 150,000 people currently receiving treatment for dependent opioid use. [1] Since the 1980s a unified harm minimisation approach, which targets the high mortality and morbidity associated with injected OUD, has led to promotion of inhaled use of heroin as an alternative to injection [2]

Now, a high prevalence of premature onset of obstructive airways disease and respiratory related deaths within the opioid use disorder (OUD) population globally is of increasing concern. [3] This may be linked to inhaled opioid use (which is known to cause bronchoconstriction) , compounded by inhalation of tobacco, cannabis , crack cocaine inhalation and the substances with which illicit drugs are mixed. [4]

Researchers from Liverpool (UK) have published data from the largest international spirometry screening study to date of a cohort receiving treatment for OUD with a current or past history of inhaled heroin use. They report a hitherto under-recognised burden of respiratory disease in a relatively young population. They diagnosed over half of 753 as having COPD or Asthma- COPD overlap disorder (ACO) (each group having fixed airflow obstruction, but differentiated based on prior physician diagnosis of asthma). [5]

A limitation of the Liverpool group's cross-sectional cohort group is its use of almost entirely spirometric diagnostic classification. In addition, whilst the abnormality in some patients was substantial, in others it was mild. Interpretation is aided by their longitudinal spirometric follow up, successful in 106 of 372 (28%) originally diagnosed as having COPD or ACO. The participants in this current study constituted around 14% of the original screened cohort of 753 (those without abnormalities at first screening were not followed up). Generalisability of the findings from this study is compromised by the high proportion of participants lost to follow up. The authors were also limited in their ability to adjust adequately or perform subgroup analyses with respect to persistence of, or changes in, smoking status for heroin, tobacco or cocaine. So we know that participants used other inhaled substances, but without a comparator group, their contribution cannot be judged. [6] The hazards of spirometry led diagnosis are apparent in that around 10% subjects were reclassified as having asthma (positive acute reversibility) or normal spirometry). Despite this, the group overall had an accelerated loss of FEV1 and an increase in symptoms, showing this is clinically relevant lung disease contributing to overall burden of ill health.

Importantly, the Liverpool team also showed that the majority of the follow up cohort did engage with primary care services and receive treatment following screening. This patient population is often seen as highly challenging to engage, but this research disputes this notion. The research team have established significant engagement from both healthcare providers and the participants, with rich sociodemographic data, including use of other inhaled substances (crack cocaine, tobacco, cannabis) , collected alongside high quality outcome data.

How this advances the field

For clinicians and academics alike, the observation of significant lung disease burden in relatively young people stabilised in drug treatment settings is of growing concern. The Liverpool study describes early onset, rapidly progressive COPD, but subsequent engagement with healthcare services when offered, making a compelling argument for case finding and early intervention.

In Switzerland, the observed prevalence rates of COPD in a population of clinic attendees were very similar to UK settings, despite differing sociocultural patient demographics and service delivery models. The study by Grischott et al addressed a further important gap in the literature. Participants who had screened positive for COPD expressed willingness to access treatment. However, they often preferred pharmacological treatments over self-management options and smoking cessation interventions. [7]

A higher rate of hospitalisations was observed in this current study than would be expected in such a young population. In a recent large cohort study of 6683 people

undergoing community-based treatment for heroin dependence (London, UK) , age and gender linked reference rates were used to quantify excess death and hospitalisations . There were 48 excess deaths due to COPD, the second largest subcategory overall of excess deaths in the OUD population. During 44,950 hospital admission years, there were an excess of 812 COPD admissions. [8]

Impact on practice

People with opioid use disorder (OUD) have high levels of physical multimorbidity yet delayed presentation for healthcare. [9] This may reduce treatment efficacy for long term conditions and increases treatment burden and costs (for example blood borne viruses, chronic venous ulcers). Poor access to primary care, leads to inevitable increased hospitalisation for physical health problems. OUD treatment settings which offer co-located and tailored physical care for treatment for Hepatitis C find an increased uptake of treatment and completion rates for their treatment programmes, a model which might be generalisable. [10]

A rationale for not screening people with OUD for prevalent physical co-morbidities is that they 'do not engage with physical healthcare' and have chaotic 'lifestyles'. In reality, the poor engagement with healthcare is influenced by so much more than the daily challenges of drug seeking behaviours. New symptoms may be over-shadowed in time limited consultations where both patient and practitioners may be overwhelmed by the complexity of mental -physical multimorbidity. People with OUD experience stigma and discrimination in routine health care settings. Poverty, family breakdown and incarceration lead to address changes and loss of continuity , even where universal healthcare is available. [11]

This UK based study and others further challenges therapeutic nihilism about proactive care within treatment settings for OUD. There were very high levels in engagement for baseline screening for COPD and ACO (73%) and the majority of participants had engaged with some level of primary care treatment. The observed increased hospitalisations in a relatively young population would be of interest to commissioners. Cost -effective interventions such as universal access to influenza and pneumonia immunisations might reduce hospitalisations associated with respiratory disease in this high risk population during winter months. [12]

Future Research

This study suggests many of the criteria for useful case finding are met. A common, high risk group with clinically relevant disease has been identified. Success in changing treatment to improve symptoms has been demonstrated, with a potential to change long term burden of ill health. Further large scale studies are now warranted to assess the cost effectiveness of such case finding and to define better the most successful treatment

contexts and modalities. It is important healthcare workers understand that harm reduction strategies should not cease with an end to injecting drug use, but need to recognise that associated with smoking opiates and other drugs too.

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