

**P123 OPIATE SMOKERS HAVE A HIGH PREVALENCE OF RESPIRATORY SYMPTOMS IRRESPECTIVE OF AIRFLOW OBSTRUCTION**

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In the 1990s inhalation ('chasing the dragon') became the predominant method of recreational opiate (heroin and crack cocaine) consumption as it was perceived to have fewer detrimental health effects than injection. Although clinicians encounter individuals with COPD associated with opiate smoking ('heroin lung') the airway effects and symptoms resulting from opiate smoking are not established. We recruited 145 current and past opiate users from a local community drug service and recorded demographics. They completed spirometry pre and post salbutamol and questionnaires addressing drug use, symptoms and health status. Lower limit of normal was used to define airflow obstruction. Ten subjects failed to produce adequate spirometry, 26 had only injected and never smoked opiates while 6 subjects had marked bronchodilator (BD) reversibility consistent with asthma. Thirty six subjects appeared to have COPD and these were compared with 67 opiate smokers with normal post-BD spirometry and the 26 subjects who only injected opiates. The results from the 3 groups are shown in the table. The COPD group was a little older and necessarily had a lower FEV1 and post-BD airflow obstruction. There was little difference in length of drug use when the opiate smokers with COPD were compared to those without and the frequency of cough and phlegm differed little. Opiate smokers with COPD had modestly higher rates of wheeze and breathlessness; hence, higher CAT and MRC dyspnoea scores, but respiratory symptoms and use of respiratory medication were common in the non-COPD groups. Heroin and crack cocaine smoking is a risk factor for the development of irreversible airflow obstruction at a very young age. Respiratory symptoms are common in opiate

**Abstract P123 Table 1.**

	COPD (n = 36)	No COPD (n = 67)	No COPD, IVDU only (n = 26)	p value COPD vs. No COPD
Age (yrs)	44.7 (6.3)	40.3 (7)	34.6 (12)	0.01
Gender (Male/%)	25 (69%)	48 (72%)	16 (59%)	NS
Post-BD FEV1 (L)	2.62 (0.91)	3.65 (0.82)	3.85 (1.18)	<0.001
Post-BD FEV1 (%)	74.6 (23.8)	99.2 (14.4)	102.7 (11.4)	<0.001
Post-BD FEV1/FVC	0.6 (0.13)	0.77 (0.05)	0.84 (0.05)	<0.001
CAT	19.8 (9.8)	16.6 (9.5)	10.2 (7.4)	NS
MRC	3 (1.6)	2.3 (1.2)	1.4 (0.6)	0.06
Using inhalers	19 (56%)	24 (36%)	2 (8%)	NS
Using long-acting BD	9 (25%)	5 (8%)	0	0.02
Cough (%)	67	69	31	NS
Phlegm (%)	69	63	35	NS
Wheeze (%)	86	63	31	0.01
Breathlessness (%)	83	69	23	NS
Cigarette pack years	24 (21)	23 (17)	19 (19)	NS
Years heroin smoked	24 (9)	15 (10)	NA	<0.001
Years crack smoked	13 (8)	11 (7)	NA	NS
Years cannabis smoked	22 (11)	18 (11)	9 (6)	0.08
Diagnosed with asthma (n/%)	21 (58%)	18 (27%)	4 (15%)	<0.01
Diagnosed with COPD (n/%)	5 (14%)	4 (6%)	0	NS

smokers irrespective of the presence of COPD and not uncommon in those who have only injected opiates. In many, this is associated with a reduced health status despite normal spirometry; hence, symptoms are not a useful way to 'diagnose' COPD and spirometry is essential.

**P124 CHRONIC BRONCHITIS AMONG FISHERMEN IN EXPOSED TO FIREWOOD SMOKE**

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**Background** Biomass is heavily depended on for domestic energy use by people in developing countries. These materials are typically burnt in simple stoves and produce a lot of smoke. Exposure to this indoor air pollution has been linked to a number of respiratory disorders. This study aimed to assess some long term effects exposure to indoor air pollution among fishermen.

**Methods** A survey was conducted in a fishing community in Nigeria among 337 fishermen exposed to indoor air pollution from burning firewood and 345 matched controls. Exposure was determined by the product of the average daily duration of time spent close to the fire and the number of years (Hour-years). A modified BMRC questionnaire was used to obtain information on respiratory symptoms and spirometry was performed on the participants.

**Results** The frequency of chronic respiratory symptoms was significantly higher among the exposed fishermen compared with the control subjects. Chronic bronchitis was significantly associated with an obstructive ventilatory pattern. Logistic regression analysis showed an increased risk for chronic bronchitis among exposed fishermen (OR 8.7; 95% CI 4.7–16.3,  $p < 0.001$ ), women were 6 times more likely than men to develop chronic bronchitis (OR 6.6; 95% CI 2.5–17.8,  $p < 0.001$ ) and cigarette smokers were 5 times more likely than non-smokers to develop chronic bronchitis (OR 5.0; 95% CI 1.8–13.8,  $p < 0.05$ ).

**Conclusion** The results of this survey have shown an association between exposure to indoor air pollution and chronic respiratory disorders. Cigarette smoking aggravated this association.

**P125 HEROIN SMOKING IS ASSOCIATED WITH EARLY ONSET COPD WITH PREDOMINANT EMPHYSEMA**

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An association between opiate smoking and acute severe asthma is recognised but a relationship with COPD is not clearly established and limited to case reports. Anecdotally there is limited knowledge about the pulmonary effects of heroin smoking amongst drug users, drug service workers and healthcare professionals. To examine this relationship we studied a convenience sample of 41 heroin smokers who presented to our service with respiratory symptoms and were diagnosed with COPD. All completed spirometry and underwent a CT scan while 20 had alpha-1-antitrypsin level measured and 9 had DLco measured. Visual emphysema extent was recorded by two thoracic radiologists with a third adjudicating where there was a more than 1 point difference in grading. Emphysema was assessed in both lungs at

3 levels (cranial, middle and caudal) with grade 1 representing 1–5% emphysema, 2 = 6–25% emphysema, 3 = 26–50%, 4 = 51–75% and 5 >75% emphysema. Mean age at presentation was 40.7 (SD 5.4) years with all subjects aged 50 years or younger and 18/41 (44%) were younger than 40 years. Mean pack years cigarette smoking was 27 (19) and subjects had smoked heroin for 14.8 (6.6) years. Mean pre-bronchodilator FEV1 was 0.99 (0.52) L; 29.9 (17.6)%predicted and FEV1/FVC was 0.36 (0.13). Nine subjects had moderate (GOLD stage II), 7 severe (GOLD stage III) and 25 had very severe (GOLD stage IV) COPD. DLco was 41 (23)%predicted in the 9 subjects and alpha-1-antitrypsin level was normal in the 20 subjects who had it measured. Twenty nine CT scans were high resolution and suitable for detailed analysis. 28/29 (97%) subjects had at least grade 1 upper lobe emphysema and mean upper lobe emphysema extent (average of the 2 upper lobe scores) was 3.0 (1.4) with 15/29 (52%) subjects having grade 3 emphysema or worse. Overall emphysema extent (average of all 6 scores) was 2.5 (1.1). Moderate bronchiectasis was seen on only 3 scans and no subject had severe bronchiectasis. The other 12 CT scans could not be precisely graded but all had been reported as showing emphysema (2 mild, 2 moderate, 1 moderate to severe and 7 severe). Heroin smoking is associated with very early onset severe COPD with predominant emphysema. This is an important public health message needing dissemination to heroin smokers, drug service workers and healthcare professionals.

**P126 THE PREVALENCE OF SELF REPORTED RESPIRATORY SYMPTOMS AND DIAGNOSES AMONGST PATIENTS ATTENDING A DRUG DEPENDANCE CLINIC**

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**Introduction** In England it is estimated that between the ages of 15–64, 2.2% use cocaine, 6.8% use cannabis and 0.8% use opiates on a regular basis<sup>1</sup>. Illicit drug use such as crack cocaine smoking, heroin smoking and intravenous heroin also contribute to a range of respiratory conditions. A significant proportion of drug users also smoke tobacco. For a wide range of social, psychological and economic reasons, respiratory conditions within this population may often go undiagnosed for many years. Often their disease can progress to become severe before any medical input is sought. Aim: To ascertain a detailed tobacco and non-tobacco smoking history and the prevalence of respiratory symptoms, prior diagnostic investigations and diagnoses amongst clients in the criminal justice system attending an inner city drug treatment clinic run by Addaction.

**Methods** Questionnaires were administered by Addaction staff and junior doctors from the respiratory department as part of a service evaluation. In order to ascertain whether their symptoms were likely to represent underlying COPD, a validated questionnaire was used<sup>5</sup>. The definitive diagnostic test for COPD is spirometry however in this particular group of people this is difficult to obtain due to frequently chaotic lifestyles.

**Results** A total of 62 clients completed questionnaires. 44 (71%) smoked cigarettes, 39 (63%) tobacco (mean pack years (SD) combined cigarettes/tobacco 23.5 (25)), 40 (65%) marijuana, 54 (87%) crack and 57 (92%) heroin. 26 clients (42%) injected heroin. Only 17 (24%) reported having had spirometry. Clients were divided into tertiles ('heavy', 'moderate' and 'mild' exposure to smoked tobacco and drugs) according to total smoking history

(combined pack years, joints/day years, rocks/day years and bags/day years respectively for tobacco, marijuana, crack and heroin). There were no statistically significant differences between groups - See Table 1.

**Conclusions** The majority of the clients reported at least one symptom suggestive of airways disease. A larger study incorporating spirometry based at drug clinics may help to diagnose, and thereby facilitate effective treatment, of underlying COPD in this population. Early diagnosis and treatment could reduce illness within this population, prevent admissions and lead to significant savings in NHS spending.

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**Abstract P126 Table 1.**

	Heavy	Moderate	Mild
Number	21	21	20
Mean MRC score - good day	2.00	1.81	2.30
Mean MRC score - bad day	2.85	2.43	2.60
Kept indoors with chest symptoms (%)	33.33	47.62	45.00
Cough (%)	42.86	66.67	55.00
Admitted to hospital with chest problems (%)	38.10	28.57	25.00
Ever had inhalers (%)	57.14	61.90	50.00
COPD/Emphysema/Bronchitis (%)	33.33	23.81	30.00
Asthma (%)	47.62	42.86	40.00

**P127 RADIOLOGICAL DIAGNOSIS OF EMPHYSEMA, PNEUMOTHORAX AND BULLAE: CASE FOR TOBACCO AND CANNABIS SMOKING HISTORIES**

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**Introduction** There is increasing evidence that cannabis smoking, combined with tobacco, increases the risk of emphysema and bullous lung disease (BLF Report 2012). The aim of this retrospective case study was to determine the prevalence of tobacco and/or cannabis smoking amongst patients < 50 years with radiologically-diagnosed emphysema, pneumothorax or bullous lung disease, and to assess the quality of smoking documentation.

**Methods** A list of all high-resolution computerised tomography (HRCT) scans over 2 years (Jan2010-Dec2012), of patients ≤50 years at scan date was generated from the radiology database. All scans were reviewed by a Consultant Thoracic Radiologist to confirm accuracy of initial reports. Case notes of all patients with radiological emphysema, pneumothorax or bullous lung disease were reviewed for tobacco and cannabis smoking histories to examine the relationship with abnormalities.

**Results** 361 HRCTs were performed over 2 years in ≤50 year olds. 91/361 (25.2%) scans were reported as emphysema, pneumothorax or bullae. 85/91 notes were available for analysis and 62/85 (73%) had full smoking histories recorded; 7/85(8.2%) tobacco smoking history not recorded and 22/85(25.9%) cannabis smoking history not recorded. 27/48 (56%) current tobacco smokers with an abnormal HRCT also smoke cannabis. There