

**P3 EFFICACY OF A PHYSIOTHERAPY, SPEECH AND LANGUAGE THERAPY INTERVENTION (PSALTI) ON HEALTH RELATED QUALITY OF LIFE (HRQL) FOR PATIENTS WITH REFRACTORY CHRONIC COUGH: A RANDOMISED CONTROL TRIAL**

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**Introduction** Refractory chronic cough has a significant negative impact on HRQoL. There are currently limited effective antitussive therapies. Few studies have explored the effectiveness of nonpharmacological interventions for refractory chronic cough. This study investigated the efficacy of PSALTI on HRQoL for people with refractory chronic cough in a multi-centred RCT.

**Methods** Participants were recruited across five NHS hospitals trusts. 76 participants were randomised to PSALTI or placebo (equal attention) intervention. PSALTI consisted of education, laryngeal hygiene and hydration advice, cough control techniques and psycho-educational counselling. Placebo consisted of general education on exercise, diet, stress and relaxation. Both groups attended 4 weekly sessions of 1:1 therapy. HRQoL was measured at baseline, four weeks (end of treatment) and 3 months follow up by Leicester cough questionnaire (LCQ). Cough reflex sensitivity was assessed at baseline and four weeks by capsaicin cough challenge (C2, C5, concentration that caused first urge to cough (Cu)) and was analysed by geometric means (GM). Outcomes between groups were analysed using ANCOVA.

**Results** The PSALTI (n = 35) and Placebo groups (n = 41) were well matched (p > 0.05) for age [mean (SD)] 58(15) vs. 56(11) years; gender 71% vs 63% females; cough duration [median (IQR)] 60(30 to 126) vs 48(24 to 126) months and baseline LCQ [mean (SD)] 10.4(3.6) vs 11.9(3.5). At four weeks HRQoL improved in both groups, mean LCQ increase in PSALTI was 3.4 (95% CI 2.26 to 4.55) vs placebo 1.7 (95% CI 0.78 to 2.54); difference in LCQ change between groups was 1.5 (95% CI 0.27 to 2.74, p = 0.02) points more on average in the PSALTI group. This effect is greater than the MCID for LCQ and was sustained at 3 months (mean difference change between groups after 4 weeks to 3 months was -0.28 (95% CI -1.83 to 1.38). There was a significant increase in Cu in the PSALTI group compared to placebo (GM(SD) change 2 μm (5.07) vs 0.612 μm (3.26), p = 0.02). There was no significant difference in cough reflex sensitivity between the groups (C2, p = 0.46; C5, p = 0.74).

**Conclusions** PSALTI significantly improved HRQoL compared with equal attention placebo intervention and this improvement was sustained at three months. PSALTI also significantly increased Cu compared to placebo.

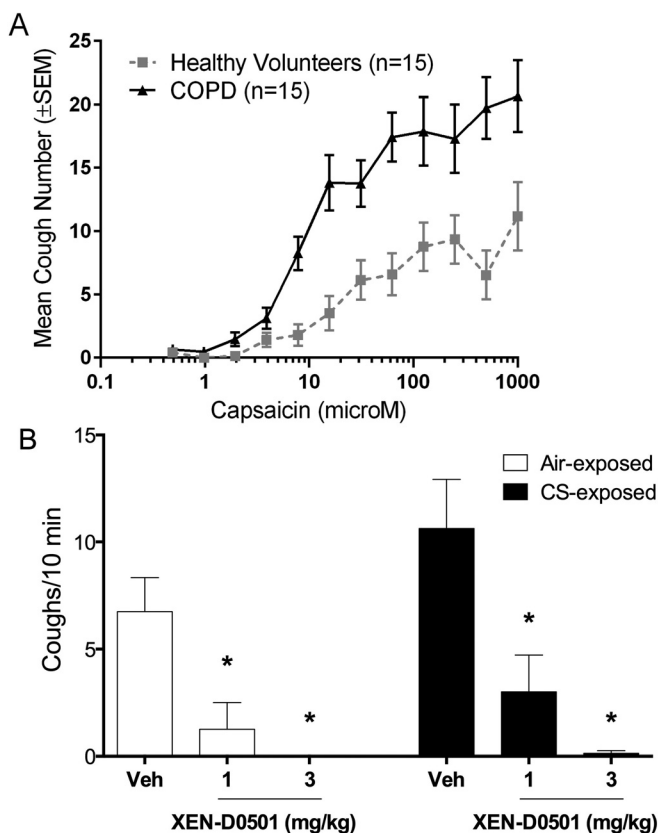
**P4 ESTABLISHING A ROLE FOR TRPV1 ON SENSORY NERVES IN COPD ASSOCIATED CHRONIC COUGH**

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**Background** An increase in cough reflex sensitivity to capsaicin in COPD has been described in some studies, suggesting a role for TRPV1 in the disease phenotype. We utilised a guinea-pig cigarette-smoke (CS) exposure COPD model to investigate an enhanced cough phenotype, and evaluate the role of TRPV1 using a novel clinical-ready inhibitor, XEN-D0501.<sup>1</sup> Furthermore, we confirmed enhanced cough responses in COPD patients using a dose-response capsaicin challenge to determine E<sub>Max</sub>.

**Methods** Guinea-pigs were exposed to air/cigarette smoke (CS) for 1 h, twice daily, for 8 days. Coughs evoked by aerosolised capsaicin (30 μM), depolarisation of isolated vagus nerve tissue induced by capsaicin (1 μM), or increases in intracellular calcium [Ca<sup>2+</sup>]; to capsaicin (1 μM) in airway-terminating (i.n. DiI stained) jugular and nodose neurons were evaluated. Vagus nerve was obtained from human non-smoker/smoker subjects for similar assessment. Coughs evoked by capsaicin (4 inhalations, 0.49–1000 μM) were recorded in COPD and compared with healthy controls.



**Abstract P4 Figure 1** (A) Human coughs to capsaicin — healthy controls; n = 15, median age 56 (IQR 39–60) 5 females, mean FEV<sub>1</sub> 109.5% (±17.0). COPD patient: n = 15, median age 69 (64–72), 5 female, mean FEV<sub>1</sub> 58% (±11.2), p < 0.001 (General Estimating Equations). (B) Guinea-pig coughs to capsaicin (30 μM); \*p < 0.05 compared to Veh control (Kruskal-Wallis with Dunn's post-test) n = 8.