complex, bi-directional pathways by which interactions may occur. However, few studies have explored relationships between multiple psychosocial factors and outcomes in severe asthma with these pathways in mind.

Objectives This study investigated combined and independent cross-sectional and longitudinal relationships of self-management behaviours, an index of self-management (ISM), anxiety, depression, perceived control (PC) and socio-demographic/economic characteristics with asthma control, quality of life (QoL) and severe attacks amongst asthma patients on high levels of treatment and/or with a history of admissions.

Methods Cross-sectional data from 132 adults recruited to a previously reported trial of an intervention and accompanying comparative study were subjected to multiple regression analyses. These systematically examined relationships between psychosocial factors and asthma outcomes, and were used to build final hierarchical regression models in which key clinical variables were controlled for. More limited data from a maximum of 112 patients were used to explore longitudinal relationships, primarily with asthma control.

Results Final hierarchical regression models accounted for up to 69% and 73% of the variability in asthma control and QoL respectively ($p<0.001$) and significantly predicted experience of a severe attack ($p<0.001$). Variables showing significant independent relationships to outcomes in these models are highlighted in the Abstract P175 Table 1. Some individual behaviours and the ISM showed independent and differing cross-sectional relationships to each outcome. Other psychological factors were related to subjective outcomes but not severe attacks. Relationships of some psychosocial factors (eg, depression, unemployment) to outcomes were not fully mediated by other variables, including self-management behaviours. In longitudinal analyses, there was some evidence for depression directly contributing to poorer subjective outcomes, whilst relationships of PC and anxiety with outcomes were more variable and inconsistent.

Abstract P175 Table 1 Regression

	Control (11 variables entered)	QoL (12 variables entered)	Attack (6 variables entered)
1. Clinical factors	Severity	(Sev with ISM)	–
2. Self-mgmt behs	Overusing reliever	–	Trigger avoid
3. Psych factors	Depression (PC with ISM)	Anxiety depression PC	N/A
4. Social factors	Employment age	Employment	Age
Var. acc. for (R^2):	69%	73%	app 23–31%
	(63% using ISM)	(72% using ISM)	
	All steps sig (26, 31, 9, 4%)	All steps sig (25, 19, 27, 2%)	All steps sig (~10, 6, 17%)

Conclusions Emotional and cognitive factors appear at least as important as self-management behaviours in relation to subjective outcomes in severe asthma. Along with a growing body of other research, findings suggest a particular need to identify and address depression amongst patients with severe asthma in practice, as in other chronic diseases.

P176 EVALUATING THE ROLE OF TRIAMCINOLONE IN A DIFFICULT ASTHMA SERVICE

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Introduction and Objectives 10% of patients with asthma have disease that is refractory to conventional therapy. Two important factors in this group of patients are non-adherence to prescribed treatment and steroid insensitive airway inflammation. We report on our experience using intramuscular (IM) triamcinolone to evaluate such patients.

Methods We identified 28 patients who were on BTS step 5 treatment for asthma and at risk of fatal or near fatal events, who were given IM triamcinolone in the Glenfield difficult asthma clinic. The primary reason for administration of IM triamcinolone was to evaluate whether these patients had evidence of steroid insensitivity or were potentially non adherent. Adherence was assessed objectively prior to commencing triamcinolone. Juniper asthma control questionnaire (JACQ), fraction of exhaled nitric oxide (FeNO), blood eosinophils, sputum eosinophils, FEV_1 (pre bronchodilator) were measured at baseline and whilst on triamcinolone.

Results Triamcinolone was administered monthly at a dose of 40–80 mg for a median (range) course of 4 (1–19) months. Patient demographics were: 75% (21) female, mean age 40 y, mean BMI 29.1, median dose of ICS (BDP equivalent) 2000 mcg, median dose of maintenance prednisolone 20 mg, 29% (8) had previously been ventilated. Adherence was objectively assessed in 93% (26) with non-adherence demonstrated in 77% (20), either by prescription refill check or drug assays. Significant improvements were seen whilst on triamcinolone in the mean JACQ score from 3.66 to 2.52 ($p=0.0003$), geometric mean FeNO from 52.3 ppb to 17.8 ppb ($p=0.0034$), mean blood eosinophils from 0.59×10^9/l to 0.22×10^9/l ($p=0.0032$), geometric mean sputum eosinophil count from 12.93% to 1.24% ($p<0.0001$) and in pre bronchodilator FEV_1 from 54% to 67% predicted ($p=0.0003$). Of 28 patients receiving IM triamcinolone, 68% (19) showed significant improvement in 2 or more disease markers, 7% (2) showed improvement in 1 disease marker, 18% (5) had an equivocal response and 7% (2) demonstrated no response to parenteral steroid. No significant adverse events were reported.

Conclusions This study shows that IM triamcinolone is a useful tool that may identify non-adherence in difficult-to-control asthmatic patients prescribed maintenance oral corticosteroids. Absolute steroid resistance is uncommon in this group.

P177 FLUTICASONE PROPIONATE/FORMOTEROL FUMARATE COMBINATION THERAPY IS AS EFFECTIVE AS FLUTICASONE PROPIONATE/SALMETEROL XINAFOATE IN THE TREATMENT OF ASTHMA: A RANDOMISED CONTROLLED TRIAL

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Introduction and Objectives A new asthma therapy combining fluticasone propionate and formoterol fumarate (FP/FORM) in a single pressurised metered dose inhaler has been developed. The efficacy and safety of FP/FORM and fluticasone propionate/salmeterol xinafoate (FP/SAL) therapy were compared.

Methods Adults (N=202) with mild to moderate-severe asthma were randomised 1:1 to 12 weeks of treatment with FP/FORM (100/10 μg or 250/10 μg) or FP/SAL (100/50 μg or 250/50 μg), both twice daily, in an open-label, parallel-group, multicentre study. The starting dose was based on the dose of inhaled corticosteroid the patient received before the study. Lung function and safety assessments were made during the 12-week period. The primary endpoint was mean morning pre-dose FEV_1 at Week 12.

Results FP/FORM was as effective as FP/SAL, with a least squares (LS) mean difference in morning pre-dose FEV_1 at Week 12 of −0.061 L between treatments. Non-inferiority of FP/FORM to FP/SAL was demonstrated (the lower limit of the 95% CI exceeded the acceptance limit of −0.2 L). Pre-dose FEV_1 increased in both groups