"MY ASTHMA MAY BE OUT OF CONTROL, BUT I HAVE IT UNDER CONTROL": A MULTINATIONAL CROSS-SECTIONAL OBSERVATIONAL STUDY OF REAL-LIFE PATIENTS MANAGED IN PRIMARY CARE

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INTRODUCTION

- While a discrepancy between patient perceived and actual disease control is frequently reported, factors related to this disparity remain unclear. Identifying patients at risk of overestimation of asthma control remains elusive.
- **AIM:** To (i) investigate the relationship between patient-reported and actual level of asthma control (ii) compare the demographic, clinical, attitudinal and behavioural characteristics between patients who accurately report 'well controlled' asthma and those who do not, and (iii) identify factors associated with inaccurately reported 'well controlled' asthma.

METHODS

- A historical, multinational, cross-sectional study (2011-2014) using data from the iHARP asthma review service for adults with asthma prescribed fixed-dose combination inhaled corticosteroid and long-acting beta agonist (FDC ICS/LABA) therapy. Multivariable logistic regression was used to identify patient characteristics associated with inaccurately reported 'well controlled' asthma.

RESULTS

- Data from 4274 patients were analysed; mean (SD) age of patients 50.9 (14.3) years, 60.8% female, 33.1% obese (Body Mass Index (BMI) ≥ 30kg/m^2) and 12.9% current smokers.
- A major discrepancy between patient-reported and actual level of asthma control based on Global Initiative for Asthma (GINA)-defined criteria was detected, with a relatively high rate of inaccurately reported 'well controlled' asthma; 71.1% of patients who reported 'well controlled' asthma were incorrect in their perception despite receiving FDC ICS/LABA therapy (Table 1).
- The incidence of accurately reported 'well controlled' asthma was significantly lower than accurately reported 'not well controlled' asthma (28.9% vs. 67.4%, p=0.010) (Table 1).
- The univariable logistic regression results for the risk of inaccurately reported 'well controlled' asthma are shown in Table 2.
- The multivariable logistic regression model identified 4 independent risk factors associated with inaccurately reported 'well controlled' asthma and was statistically significant (χ^2 = 126.10, df = 12, p < 0.001) (Table 3).

RESULTS

Table 1. GINA-defined asthma control of total study sample and by patient-reported level of asthma control

		Patient-reported level of asthma control	
GINA-defined asthma control level†	**Total N (%) (N=4274)**	Well controlled (n=2582)	Not well controlled (n=1692)
Controlled	1296 (30.3)	**745 (28.9)**	551 (32.6)
Partially controlled	1912 (44.7)	**1299 (50.3)**	613 (36.2)
Uncontrolled	1066 (25.0)	**538 (20.8)**	528 (31.2)

†GINA (Global Initiative for Asthma) criteria: daytime symptoms (> 2 days/week); need reliever inhaler (> 2 days/week); any limitation in daytime activity; any night wakening due to asthma in the past week. The presence of these 4 criteria determined the asthma control level: none of the above (controlled); 1 or 2 of the above (partially controlled); 3 or 4 of the above (uncontrolled).

Table 2. Univariable associations between patient characteristics and inaccurately reported 'well controlled' asthma

	Reference category	Category	Odds Ratio (95%CI)	*p* value
Age group	> 50 years	18-50 years	0.80 (0.68-0.95)	**0.011**
Gender	Male	Female	4.65 (3.88-5.57)	**< 0.001**
Body Mass Index	Obese	Underweight/ Normal weight	0.63 (0.51-0.79)	**< 0.001**
Education completed	PG/Professional/ University degree	Secondary education	1.24 (1.01-1.51)	**0.040**
	Secondary education	None/Primary education	0.48 (0.36-0.63)	**< 0.001**
Highest number of puffs of reliever taken in 1 day[a]	5-12 or more	0-4	0.08 (0.04-0.16)	**< 0.001**
Oral corticosteroid used for worsening asthma[b]	≥ 1 courses	0	0.68 (0.55-0.84)	**< 0.001**
Hospitalisation due to asthma[b]	≥ 1	0	0.42 (0.24-0.74)	**0.002**
Inhaler review by HCP[b]	Yes	No	0.69 (0.58-0.82)	**< 0.001**
Respiratory specialist review	More than a year ago	In the previous year	0.56 (0.43-0.74)	**< 0.001**
Side-effects from preventer inhaler use	≥ 1	0	0.43 (0.36-0.52)	**< 0.001**
Oropharyngeal effects during inspiration phase	≥ 1	0	0.52 (0.43-0.62)	**< 0.001**
Need to take inhaler(s) for asthma to be 'well controlled'	Agree	Disagree	0.72 (0.60-0.87)	**0.001**

HCP, health care practitioner; PG, post graduate.
[a]In the 4 weeks before an iHARP asthma review consultation
[b]In the year before an iHARP asthma review consultation

Table 3. Logistic regression predicting likelihood of inaccurately reporting 'well controlled' asthma

	Reference category	Category	B	Odds Ratio (95% CI)	*p* value
Highest number of puffs of reliever taken in 1 day[a]	0-4	5-12 or more	3.26	**26.13 (3.48-196.28)**	**0.002**
Gender	Male	Female	1.84	**6.31 (3.87-10.30)**	**<0.001**
Respiratory specialist review	In the previous year	More than a year ago	1.35	**3.87 (2.12-7.07)**	**<0.001**
Oral corticosteroid use for worsening asthma[b]	None	≥1 courses	0.93	**2.52 (1.25-5.10)**	**0.010**

[a]In the 4 weeks before an iHARP asthma review consultation
[b]In the year before an iHARP asthma review consultation

CONCLUSION

- The study highlighted the significant hidden burden associated with under-recognition of poor asthma control, on the part of the patient.
- There is an urgent need for targeted interventions that will include new strategies, measures and terminology designed to address the continuing discrepancy between perceived and actual disease control.

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People interested in this data source for ADEPT approved research to contact OPC at info@optimumpatientcare.org