factor for carbon monoxide (DLCO), functional residual capacity (FRCpleth) and maximum expiratory flow at 24, 50, 75% of vital capacity ($MEF_{25,50,75}$) were assessed. The results were expressed as z-scores. The response to a cold air challenge (CACh) was considered positive if FEV1 fell by >10% of baseline.

Results At the time of assessment, compared to the non SGA children, the SGA children had lower weight ($p < 0.001$) and height ($p = 0.002$). The SGA children had lower mean z-scores for FEV1 ($p < 0.001$), FEV1/FVC ($P = 0.009$), DLCO ($p = 0.013$), MEF_{25} ($p = 0.005$), MEF_{50} ($p = 0.002$) and MEF_{75} ($p < 0.001$) and a higher mean FRCpleth z-score ($p = 0.010$). There was no significant difference regarding the proportion of SGA and non SGA children responding to a CACh ($p = 0.091$).

Conclusion These results suggest that amongst very prematurely born children, being SGA at birth is associated with greater restrictive and obstructive (particularly of small airways) lung function abnormalities at school age.

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G156 SICKLE CELL DISEASE IN MALAWIAN CHILDREN IS ASSOCIATED WITH RESTRICTIVE SPIROMETRY: A CROSS SECTIONAL SURVEY

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Introduction Children with sickle cell disease (SCD) more commonly exhibit clinical features of asthma than the general population. The pathogenesis of this observation remains unclear. However these individuals are at increased risk of acute chest syndrome[1], and recurrent episodes of this complication strongly predict the development of sickle chronic lung disease[2]. It is postulated that lung function in these children is typically "obstructive" in early life and becomes "restrictive" in adulthood.

Aim To assess lung function and symptoms of asthma in Malawian children with SCD.

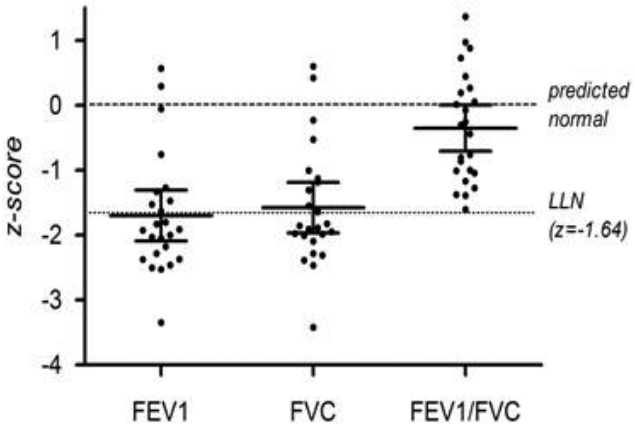
Methods Children with electrophoretically confirmed SCD attending our clinic were consecutively recruited to undergo spirometry and questionnaire screening of asthma symptoms. Forced expiratory volume in 1 second (FEV_1), forced vital capacity (FVC) and FEV_1/FVC ratio were compared with local and international reference ranges[3,4]. Asthma symptoms were recorded using the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire.

Results Twenty-four children aged 7 to 16 were recruited (median age 11.5 years, IQR 8 to 13.5). Mean spirometric indices represented as z-scores derived from international reference ranges[3] were low (Fig. 1): FEV_1 –1.64 (95% CI –2.04 to –1.23), FVC –1.49 (95% CI –1.90 to –1.09), FEV_1/FVC –0.39 (95% CI –0.76 to –0.03). No individual exhibited evidence of an obstructive defect.

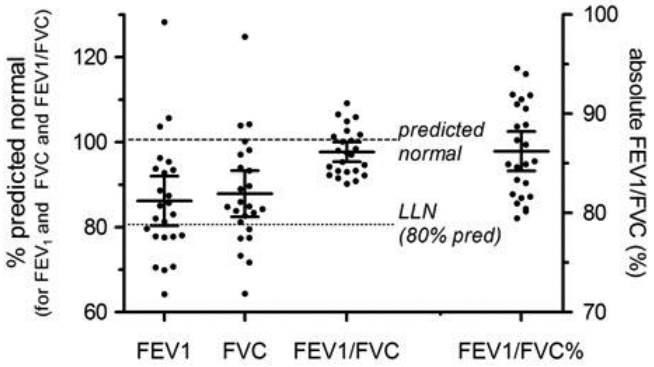
Comparison with local reference ranges[4], represented as percentage of predicted value, revealed similar impairments (Fig. 2): FEV_1 86.9 (95% CI 81.1 to 92.7), FVC 89.0 (95% CI 83.5 to 94.4), FEV_1/FVC ratio 97.7 (95% CI 95.4 to 99.9). FEV_1/FVC ratios are also given as absolute values (Fig. 2).

The prevalence of wheeze among the participants was lower than that recorded in a proximate African population[5] (Tab. 1).

Conclusion We have demonstrated lung function abnormalities suggestive of restrictive lung disease, and wheeze prevalence comparable to that of a cohort without SCD. The progression of the pulmonary complications associated with SCD may differ significantly between populations suggesting an important role of environmental influences.



Abstract G156 Figure 1



Abstract G156 Figure 2

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G157 OXYGEN PRESCRIBING FOR INPATIENTS IN THE UK

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Background Guidance from the British Thoracic Society, National Patient Safety Agency and British National Formulary advises that oxygen should be treated like other drugs in terms of appropriate