Data Analysis

## Statistical Analysis

We present descriptive summaries of key sample statistics. We compared baseline sample characteristics between those children found to be at risk of OSA and those not at risk. We used the Fisher’s exact test or chi-square tests for categorical variables. The Wilcoxon rank sum test or Kruskal–Wallis test was used for continuous variables. We considered p-values of <0.05 to be statistically significant.

Table 1: characteristics of all participants with and without SDB

**Insert table of baseline and end line characteristics here**

## Descriptive Analysis

Overal, a total of 79 children with a mean age of 4.6 (2, 10) were recruited. Of these, 47 (59%) were male. Comparing baseline characteristics between children with possible diagnosis of SDB 58 ( 73.42) and those without revealed a significant difference in suspected allergic rhinitis (p=0.017) and those with suspected OSA (p < 0.000). There were however no significant differences in other population characteristics at baseline. None of the end line characteristics had any significant difference in exposed and none-exposed groups. Additionally, none of the 21 children that were not diagnosed with SDB at baseline developed SDB at end line. In-depth summaries are presented in table 1 above.

**Univariate General estimating equation model estimates**

We further fitted a generalized estimating equation model to explore predictors of residual SDB scores > 0.33 post operation of patients. Choice of a generalized estimating equation model was because this was a longitudinal study and we needed to account for the correlated nature of observations. We present resulting univariate coefficient estimates, standard errors, odds and confidence intervals. Overall, loud snoring after surgery increased the odds of a having residual SDB by a factor of 8.08, 95% CI (2.63, 24.78). Additionally, several including stop pf breath (odds = 7.07, CI = 0.89 – 55.91), use of steroid nasal (odds = 4.6, CI = 0.55-37.89), use of antacids (odds = 3.4, CI = 0.51-22.86), rhinorrhea and obstruction lasting longer than two weeks (odds = 2.43, CI = 0.75 – 7.87), use of salbutamol inhaler (odds = 2.38, CI = 0.20-28.3), persistent itching or rubbing of the nose (odds = 2.29, CI= 0.69-7.6) and snoring while asleep (odds = 2.26, CI = 1.35-3.8) had odds greater than 1.9. Of concern however was the wide intervals, partly due to the small sample size. Additional coefficients are as presented in table 2.

Table 2: coefficients of univariate General estimating equation model

**Insert table of univariate coefficients here**

## Study Limitations

One of the limitations is the small sample size. For instance, of the 79 records, just 14 had a diagnosis of residual SDB and as such it wasn’t possible to fit a multivariate model.