Background In Shakarpur of Khambat, a coastal city of Gujarat, India, several small agate polishing units operate from individual houses. Prevalence of Silicosis and other co-morbid conditions is systematically documented recently. Effect of environmental exposure on nutritional status and pulmonary function (PFTs) of children in this area was assessed.

Methods Cross sectional study was conducted in schools of this area. Weight was measured using standard digital bathroom scale while height was measured using Stadiometer (Seca). PFTs were measured for Forced Vital Capacity (FVC) and Forced Expiratory Volume in 1st second (FEV1) using digital spirometer (One Flow FVC memo kit). Out of School children were not assessed.

Results 240 children (128 Boys and 112 Girls) in the age group of 10–16 years participated. 5 children (2 boys and 3 girls below 15 years of age) were working in agate industry. As per WHO growth standards 56.3% boys and 45.5% girls were stunted whereas 47.7% boys and 39.8% girls were underweight. 14.5% boys and 10.8% girls were undernourished. (Body Mass Index less than –2SD). The mean (SD) FVC [1.82(0.64) for boys vs. 1.83(0.63) for girls] and mean (SD) FEV1 [1.26(0.33) for boys vs. 1.29(0.34) for girls] was comparable across gender. No statistically significant difference was found in PFTs of children exposed to in house or neighboring agate industry as compared to unexposed children.

Conclusion PFTs are decreased in the entire population of children as compared to standards in Gujarat Population but agate exposed children did not show worse PFTs. Prevalence of under-nutrition in children was high.

Introduction Diarrhoea continues to be a serious problem in children and may be fatal when superimposed upon malnutrition.

Objective To determine the frequency of electrolyte disturbances in malnourished children with diarrhea and whether these findings have therapeutic value or not.

Methodology We included in the study 400 children age 6 months to 5 years admitted for acute watery diarrhea. On the basis of history, physical examination and anthropometrics measurement they were divided into Group A patients (n=116) who were malnourished and Group B patients (n=284) with normal nutrition. Serum electrolytes were done in patients of both groups and the results were analyzed statistically.

Results Analysis of serum electrolytes in both groups revealed that hypokalemia, hyponatraemia and low serum bicarbonate were seen more frequently in patients of group A as compared to group B. In group A hypokalemia was seen in 39 patients (39/116 or 33.62%) while it was observed in 42 patients (42/284 or 14.78%) in group B (p<0.001). Hyponatraemia was seen in 21 patients (21/116 or 18.10%) in group A and in 14 patients (14/284 or 4.92%) in group B (p<0.001). In group A 96 patients (96/116 or 82.7%) had low serum bicarbonate while in group B 122 patients (122/284 or 42.95%) had low serum bicarbonate value (p<0.001).

Conclusion Electrolyte disturbances were commonly seen in malnourished children with acute diarrhea. The measurement of serum electrolytes is helpful for immediate therapy to avoid serious life threatening situation. Key words: Acute diarrhea, malnutrition, electrolytes.