LUNG FUNCTION AMONG EARLY ADOLESCENTS DELIVERED TERM WITH LOW BIRTH WEIGHT

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Background
Conflicting results on the effect of low birth weight (LBW) on lung function among adults delivered with LBW had been reported in literatures. Several studies have documented alterations in lung function however some studies showed no correlation between LBW and abnormal lung function.

Objectives
The objective of the study is to determine the correlation of LBW with the present lung function of early adolescents who were delivered term, healthy and with LBW and to determine the differences in mean Forced Expiratory Volume in 1 second (FEV1) and Forced Vital Capacity (FVC) among subjects with a) maternal history of active smoking during pregnancy, b). passive smoking, c) asthma and d.) pneumonia.

Methodology
In this retrospective-cross sectional study, 41 subjects, in early adolescence (10-13 years old) delivered term healthy with LBW (< 2.5kg) underwent pulmonary function test to determine FEV1 and FVC. Other recorded information included birth weight, present weight and height, body mass index (BMI), smoking and childhood illnesses.

Results
There is a weak correlation between LBW and abnormal lung function studies among early adolescence (Spearman’s correlation coefficient range 0.002 – 0.160 or less than +1, p-values 0.17 – 0.495) No statistically significant difference in mean FEV1 and FVC values were noted among those with history of maternal smoking, passive smoking and asthma. Only those with history of pneumonia at less than 2 years old had statistically significant mean predicted FVC values (p-value 0.042)

Conclusion
LBW has a weak correlation with abnormalities with FEV1 and FVC among early adolescents.

Recommendations
Parental education and physician initiated efforts in promoting wellness aimed at preserving normal lung growth pre and postnatally, should be aggressively pursued. Further longitudinal studies involving larger sample size and a longer follow-up period is encouraged to further investigate the issues on fetal or childhood insults that may be the basis for adult diseases.

Key words:
Low Birth Weight (LBW), Force Expiratory Volume in 1 second (FEV1), Force Vital Capacity (FVC)