

# TIME-LOCATION PATTERN, HOUSEHOLD ENVIRONMENTAL TOBACCO SMOKE EXPOSURE AND URINARY COTININE IN NON-SMOKING CHILDREN

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**Background and Aims:** Environmental tobacco smoke (ETS) is an important exposure of indoor air, and may increase the risk of respiratory disease in children. The level of household ETS exposure may be associated with the time-location pattern for children. In this study, we will explore the association between the indoor time, household ETS exposure and urinary cotinine level in non-smoking children.

**Methods :** Total of 429 children were recruited in Genetic and Biomarker for Childhood Asthma (GBCA). We will utilize parental report method to measure household ETS exposure in children using structure questionnaires. Indoor and outdoor time for non-smoking children was administrated by the time-location pattern questionnaires. The urinary cotinine level was measured using a sensitive high-performance liquid chromatographic (HPLC) technique and the level of household ETS exposure will be assessed using the cotinine/creatinine ratio (CCR).

**Results:** Children exposed to ETS in household had higher cotinine level and CCR when compared with those children expose to ETS in outdoor environment. The CCR also showed a significant trend when children exposed to different amount of ETS in household. When the time-location pattern were considered in our analysis, we have found a significant trend of average CCR increased with indoor time for children in the groups of currently household ETS exposure, amount of household ETS exposure per day and number of smokers at home.

**Conclusions:** We found a dose-response relationship between urinary cotinine level and indoor time for non-smoking children. Our study suggested that the major source of ETS exposure for Taiwanese children was from family members in the household.