

released into ambient air and take as a part of air pollution. The polluted air affect people health, particularly cause disorder in normal function of lung, nervous system, blood vessel, eyes and skin irritation. The aim of this research was to identify air pollution and upper respiratory infection (URI) cases among children under five year in Surabaya. This research was an observational study with cross sectional method. Research sample was children of 1 - < 5 years old and purposive sampling method was employed to determine this sample, with inclusion criteria: reside surround Air Pollution Standard Index and lived near air pollution source. Data collection was carried out with questionnaire and observation form. Collected data then was analyzed using descriptive analysis and prevalence ratio to distinguish the risk of upper respiratory infection between children who lived near from air pollution exposure and lived far off exposure. The research showed that more than a half of children who has upper respiratory infection were children of 12- 24 months old age. The children who lived in room with improper temperature had 1.34 times more likely (RP = 1.34) to suffer from URI compared to who lived in appropriate temperature's room. The children who lived in smoking exposure environment had 1.35 times higher risks to develop URI compared to children without this exposure. The result of measurement for ambient air quality for the last one year showed that air pollution in Surabaya is at moderate level. Based on that result, it is suggested that tree planting is needed to absorb air pollutant. To avert URI cases among children, it is better to keeping house in cleaning condition and maintaining good air to circulate inside house everyday.

OT11-7

Factors Related to the Incomplete Immunization among 1-5 Years Myanmar Migrant Children of Mahachai District, Samut Sakorn Province, Thailand
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A cross-sectional study was conducted to describe the general characteristics of parents and children, family support and knowledge and perception of mothers on the incomplete immunization of children, from 28th Jan to 2nd Mar, 2007. The study tried to find out the relationship between these variables and the incomplete immunization of children. One hundred and fifty mothers who had 1-5 years children were chosen from three communities, interviewed by structured questionnaires and analyzed by using chi-square. The result in this study showed that 92% of mothers did not seek the antenatal care services. The commonest age of children in this study was 2 (34.7%). Mostly, they had one child in their family (34.7%) and majority of the children (81.3%) was delivered at home by traditional birth attendants. The 88% was incompletely immunized children and 64% received the immunization by mobile clinic. BCG and Measles immunization rates were quite high with 88%

and 86.7% respectively while DTP and OPV complete 3 doses were very low with 27.3%. The results indicated that the children with incomplete immunization were significantly related with prenatal care ($p < 0.001$), place of delivery ($p = 0.001$), family support ($p < 0.001$), knowledge of mothers ($p < 0.001$) and perception of mothers ($p < 0.001$). Based on finding, more midwives and nurses should be trained for domiciliary visits to migrants, and health education activities by health volunteers should be promoted in the communities of migrant people.

OT11-8

Prepregnancy Hemoglobin Concentration and the Risk of Stillbirth, Preterm Birth, and Low Birthweight

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Introduction: The effect of maternal hemoglobin concentration on the risk of stillbirth, preterm birth and low birth weight was controversial.

Methods: Population based retrospective cohort study was conducted on 71,282 mothers who received health examination between 1997-1999, and delivered a singleton live baby in 1999 or a singleton stillbirth in 1999. Rate and odds ratio of stillbirth, preterm birth, and low birthweight in accord with the level of pre-pregnancy hemoglobin level was examined. Results were adjusted for maternal age at delivery, pre-pregnancy body mass index, parity and National health insurance premium using logistic regression model.

Results: Adjusted odds ratio of stillbirth was found to be 1.86 times higher for mothers of less than 100g/L hemoglobin concentration (95% CI, 0.82-4.25) and 1.81 times higher for mother of 100-109g/L (95% CI, 1.05-3.11) compared with those of 120-129g/L. Adjusted odds ratio of preterm birth was higher among mothers of <100g/L (Odds ratio: 1.47, 95% CI, 1.03-2.11). Adjusted odds ratio of low birthweight was 1.82, 1.38, and 1.19 times higher for the mothers of <100g/L (95% CI, 1.28-2.60), 100-109g/L (95% CI, 1.07-1.78), and 110-119g/L (95% CI, 1.02-1.39), respectively than for those of the 120-129g/L pre-pregnancy hemoglobin level. The risk was not significantly elevated with mothers of high hemoglobin concentration.

Conclusion: Low maternal pre-pregnancy hemoglobin concentration rather than high hemoglobin concentration increases the risk of stillbirth, preterm birth and low birthweight.