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COMPREHENSIVE ETIOLOGICAL AND EPIDEMIOLOGICAL STUDY ON ACUTE RESPIRATORY INFECTIONS IN CHILDREN: PROVIDING EVIDENCE FOR THE PREVENTION AND CONTROL OF CHILDHOOD PNEUMONIA UNDER SCIENCE AND TECHNOLOGY RESEARCH PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT (SATREPS)

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Background Pneumonia is one of the leading causes of the deaths worldwide and the Philippines is no exception. The strategy against pneumonia by WHO/UNICEF is based on the data from 20 years ago, and the basic approach is “early diagnosis and treating severe case with antibiotics” based on clinical symptoms without laboratory confirmations. Recent data shows that viruses also play an important role as causative agents for pneumonia. The evidence based intervention should come into play to tackle the severe respiratory infections in children.

Objectives To define the etiology (causative pathogens) and outcome of children with pneumonia detected at community level to hospital level.

- ▶ To calculate the accurate incidence rate of the childhood pneumonia and to identify the risk factors for pneumonia in the community and hospitals
- ▶ To conduct the intervention study to reduce the impact of childhood pneumonia

Methods Cohort study is conducted in 2 municipalities, Biliran Province, Philippines to prospectively follow up 2,500 children since February 2014. We do test for virus and bacteria for the patient with mild to severe respiratory manifestations at household level, community health center level and hospital level. Intervention study is now ongoing in Biliran province based on the risk factors detected in the cohort site.

Result In the baseline risk analysis, incidence of pediatric pneumonia-like episodes was associated with a history of asthma, socioeconomic status, and the travel time to healthcare facilities. In the dataset of the cohort as of December 2014, the incidence rate of pneumonia and severe pneumonia are 0.179 and 0.028, respectively, which are much higher than the western pacific region (0.110 and 0.012 respectively). Viruses detected from the pneumonia patients in the cohort are RSV (10%), picornavirus (19%), hMPV (5%), FluA (H3) (2%), FluB (5%). In the community health facilities in the cohort coverage area, 16% of the patient with respiratory signs and symptoms showed low oxygen saturation level (<94%), however no one was managed with oxygen therapy nor referred to higher level health facility.

Conclusion Based on the risk assessment, we proposed an intervention using an electric device assisted IMCI for early diagnosis, early management and early referral by the community health workers. RSV is one of the most important agent for pneumonia,

pathogen specific risk factors needs to be identified and included in the intervention. In addition to the electric device, we will assess the new classification of chest indrawing pneumonia, which was previously an indication for referral to the hospital, is now managed at home. Safety and cost effectiveness for the new classification are also to be evaluated.