

Master student candidate: **Marisol Yglesias González**

Master Thesis Title: Children's Environmental Health: A study about Knowledge, Attitudes and Practices of ambulatory pediatricians in Metro Manila, Philippines

EXECUTIVE SUMMARY

Metro Manila is an urban region in the Philippines which has numerous environmental and sanitation challenges. Some of the biggest challenges that this capital region faces in terms of environmental health and management, are related to water pollution, inadequate wastewater management, poor air quality, exposure to hazardous substances and deficient management of toxic and solid waste among other environmental hazards (ADB 2009, Department of Environment and Natural Resources – Philippines 2011, Kim Oahn et al. 2006, Suk et al. 2003 & ADB 2009). It is well known that environmental exposures, like the ones mentioned above, have been linked to negative health outcomes, such as hepatitis A, dysentery, typhoid fever, schistosomiasis, leptospirosis, skin diseases, poisoning, acute respiratory infections, asthma, learning disabilities, behavioral problems, among others (Pronczuk-Garbino 2005).

When it comes to susceptibility to environmental exposures, children have been identified as the most vulnerable age group to show an impact in their health. Children are more susceptible to environmental exposures than adults and their development can be easily disrupted when there is an unsafe and polluted environment (Pronczuk-Garbino 2005).

In the context of the Philippines, the environmental conditions described above can also be associated with diseases like pneumonia and diarrheal diseases. These two health-outcomes are among the major causes of mortality in children under-five in the Philippines (Department of Health 2011). Both diarrheal diseases and pneumonia could be prevented by improving environmental and sanitary conditions (WHO 2013 & 2015). In addition to the presence of environmental hazards in Metro Manila and to the proven vulnerability of children towards their surroundings, little is known about the knowledge, attitudes and practices (KAP) the “*children's greatest advocates*” (Crain 2000), the pediatricians, have towards environmental health.

Previous studies in industrialized countries have found lack of training in environmental history-taking and low levels of self-confidence and self-efficacy¹ when discussing environmental exposures with parents and locating diagnosis and treatment tools (Kilpatrick et al. 2002, Trasande et al. 2006a & Trasande et al. 2006b). In addition, pediatricians in developing countries have acknowledged the importance of including questions about environmental exposures during all patient's visits (Beaudet et al. 2011). Therefore, a study about the KAP ambulatory pediatricians have towards children's environmental health in Metro Manila was developed. In order to conduct this exploratory research, In-Depth Interviews with eight ambulatory pediatricians (APs) with practice in Metro Manila were interviewed face-to-face by the researcher. The eight informants were recruited by sending massive electronic mails to APs registered in the Philippine Ambulatory Pediatric Association (PAPA) and by using snowball and convenient sampling. The interviews were audio-recorded and transcribed, Informed Consents were obtained. The recorded information was processed and interpreted using MAXQDA software for qualitative content analysis.

This study showed informants have knowledge and awareness regarding different environmental hazards and health outcomes for child. Although, It was challenging for the informants to classify the different types of environmental hazards. It was acknowledged by the participants that children are indeed uniquely vulnerable towards environmental exposures compared to adults. Regarding attitudes, the APs considered that using a tool for taking the pediatric environmental history (PEH) would have a positive impact on the patient. However, the integration of this tool could be hindered by how time consuming it would be. Also, the quality of information and success of the environmental history-taking process highly depends on having a good informant. These barriers could be solved by using a PEH in the shape of a checklist, by having several informants and by building good rapport with parents and caregivers.

In regards with the practices of the ambulatory pediatricians, it was found that environmental-history is conducted by asking some environmental questions according to the style the pediatricians has. It was also found that during routine history-taking the most common questions that are asked are about smoking and household location. On the other hand, more in-depth environmental history is taken when the child is already sick. Some training gaps that were found are 8 related with not to knowing how to manage

¹ Self efficacy is defined as *"the belief in what someone can do with whatever resources one can muster—rather than with what someone has"* (Bandura 2007 in CHIR n.d)

environmental exposures but merely how to ask environmental questions. Interest in further training among the informants was shown when the course or subject is related with a relevant topic for their practice. The informants suggested that the inclusion of a course in environmental health and environmental history-taking during Medical School would be useful. The APs also proposed that environmental health should have a greater focus during pediatric conventions.

It was concluded that training for environmental exposure management is required. With that sort of training pediatricians would not limit themselves on just treating symptoms, but also on advising the parents how to deal with the exposures. It was also concluded that environmental history-taking is not done in-depth as part of the pediatricians' routine but is rather done deeper when there is a clinical suspicion. Also, it is concluded that the fact that informants ask environmental questions doesn't mean they necessarily discuss in-depth exposures with parents or caregivers. As for the parents, they also play a fundamental role for a successful and accurate PEH taking, and the responsibility for taking it doesn't rely exclusively over the health system and the pediatricians. It was resolved that environmental health has not been highlighted in Medical Schools nor in pediatric conventions.

On the other hand, APs can use education and advocacy as tools to control and influence environmental exposures. Similarly, using a PEH tool would be useful to serve the patient more holistically and would contribute in reducing hazardous exposures. It is concluded that not doing a PEH can lead to ineffective treatment when there is an environmental-related disease. It is also determined that self-confidence and self-efficacy is affected among the informants, not necessarily because of lack of knowledge, but because of the deficient evidence-based links between environmental exposures and diseases, because of not having accurate or reliable environmental information disclosed by parents and caregivers, and because sometimes it is difficult to confront parents and caregivers that promote exposures.