Environmental-Driven Health Disparities: The Need for Toxicovigilance

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Abstract

**Field**

- Environmental and occupational health disparities
- Toxicology and public health

**Purpose**

To explore ways and means by which toxicovigilance could be achieved at the individual and community level.

- To redesign and enhance the health education curriculum in medical and public health schools to promote toxicovigilance in the context of health disparities.
- To equip students and trainees with skills to inform, motivate, and persuade their communities to change their attitudes and adopt health-promoting behaviors.

**Methods**

- The National Center for Medical Education Development and Research and the Health Disparities Research Center at Meharry have embarked on environmental health studies focusing on community susceptibility to environmentally-induced diseases, and prevention strategies. Findings from the work of these centers can be integrated in medical education curricula offered in primary care training on the impact of environmental health outcomes of patients, and community. Toward that end, we are analyzing blood samples from individuals in Tennessee, who died of drug-, alcohol overdose, and unknown causes. We have measured Polycyclic aromatic hydrocarbons (PAHs); toxicants that are reported to cause neuro-, reproductive toxicities and lung, and colon cancers.

**Results**

- PAH residue concentrations detected were greater than those reported elsewhere. Among different racial groups, the residue levels were high in African Americans compared to Caucasians, Hispanics, and Asians.

**Conclusion**

- Toxicovigilance is necessary in order to understand the interaction between socioeconomic and lifestyle factors leading to disparities in health outcomes.

**What is Toxicovigilance?**

- Active detection, validation and follow-up of clinical adverse events related to toxic exposures outcomes.
- Requires in-depth assessment of acute and/or chronic toxicities.

- Toxicological expertise helps in identifying hazards and assessing the risk.

**Overall Goals**

- To explore ways and means by which toxicovigilance could be achieved at the individual and community level.
- To redesign and enhance the health education curriculum in medical and public health schools to promote toxicovigilance in the context of health disparities.
- To equip students and trainees with skills to inform, motivate, and persuade their communities to change their attitudes and adopt health-promoting behaviors.

**Summary**

- Findings from our work at Meharry could be integrated in medical education curriculum offerings in primary care training on the impact of environmental health outcomes of patients, and community. Toward that end, we are analyzing blood samples from individuals in Tennessee, who died of drug-, alcohol overdose, and unknown causes. We have measured Polycyclic aromatic hydrocarbons (PAHs); toxicants that are reported to cause neuro-, reproductive toxicities and lung, and colon cancers.

**References**


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