



IOHA 2024

9th - 13th June 2024 | Aviva Stadium Dublin, Ireland

The 13th IOHA International Scientific Conference



Presenting at IOHA 2024

What type of presentations are you looking for?

Have you previously submitted for an award

Implemented a new safety initiative

Healthy workplace initiative

Mental health workplace

Required a new SOP for emerging hazard or new system

Are you a trainer on a subject that would be of interest to occupational hygienists?



Poster/talk

Individual abstract

15-minute talk

Poster to physically
display your work



EIRE - nEonicotinoid Insecticide exposuREs: an environmental and occupational exposure study of neonicotinoid insecticides 176

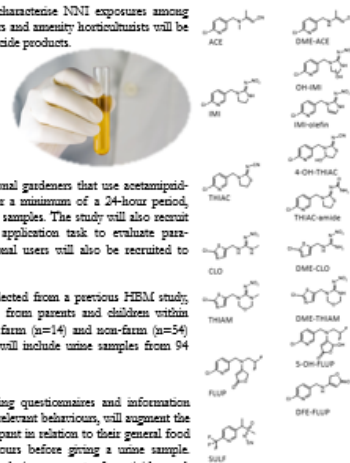
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Background: Neonicotinoid insecticides (NNIs) are the most widely used class of insecticides worldwide, registered in 120 countries. Global sales of NNIs (>\$13 billion) accounted for more than one-quarter of the global pesticide market in 2015[1, 2]. In 2018, the EU has approved five NNIs for use. However, following the re-authorisation process, most of these substances were banned, restricted, or their renewal application was withdrawn due to adverse effects on pollinators and potential effects on human health[3]. Currently, the EU has approved Acetamiprid (ACE) based pesticide products for use [4]. ACE is extensively used in the horticultural sector and is currently approved for use in the EU until 28th February 2023, but emerging research suggests that it may be a potential human neurodevelopmental toxin[5]. A human biomonitoring (HBM) strategy is considered the gold standard for evaluating human exposure to pesticides. There are a limited number of HBM studies investigating NNIs, most are located in Asia and the United States; there is a dearth of HBM studies in Europe[6]. A study among horticulturists has shown that task duration may be more influential than the quantity of pesticide used[6]. Currently, there are no HBM studies available evaluating horticultural NNI exposures. However, the current research group investigated pesticide exposures (e.g. glyphosate) among horticulturists and highlighted that their exposures might be of higher and more variable than those of agricultural workers due to the increased frequency of pesticide use and the diverse range of application methods utilised. Specifically, it was highlighted that ACE exposures among this worker group need to be investigated[7].

Aim of the study: The EIRE 'nEonicotinoid Insecticide exposuREs' project aims to characterise NNI exposures among occupational users and the general population. For occupational users, professional gardeners and amenity horticulturists will be specifically investigated, to evaluate acetamiprid exposures after using acetamiprid based pesticide products.

Methods: A newly developed and validated HBM method that quantifies seven NNIs (i.e. acetamiprid (ACE), imidacloprid (IMI), thiacloprid (THIAC), clothianidin (CLO), thiamethoxam (THIAM), flupyradifurone (FLUP) and sulfoxafos (SULF)) in urine samples, including nine of their specific metabolites (Figure 1) using a liquid chromatography-tandem mass spectrometry (LC-MS/MS) analytical method [8], which will be analysed at the Institute of Prevention and Occupational Medicine.



The project will recruit amenity horticulturists and professional gardeners that use acetamiprid-based pesticide products and will collect urine samples over a minimum of a 24-hour period, from the pre-work task to the following morning void urine samples. The study will also recruit co-workers that are within the vicinity of the pesticide application task to evaluate para-occupational exposures. Furthermore, families of professional users will also be recruited to evaluate take-home exposures.

To evaluate environmental exposures to NNIs, samples collected from a previous HBM study (IMAGE), will be re-analysed. This study collected samples from parents and children within Ireland, with a total of 68 families participating including farm (n=14) and non-farm (n=54) families, with a total of 227 urine samples collected. This will include urine samples from 94 children and 133 from the adult population.

The project will use HBM4EU initiative templates including questionnaires and information sheets. The detailed information collected, such as exposure-relevant behaviours, will augment the HBM data. Questionnaires will collect data from each participant in relation to their general food and drink intake, as well as their food intake from 48 hours before giving a urine sample. Additionally, contextual information relating to the work task (e.g. amount of pesticide used, duration of the work task) will be collected by the researcher to assess the possible exposure routes and sources, as well as to evaluate the absorption/elimination rate of NNIs.

Discussions and Conclusions

Due to the sheer quantity of NNIs used worldwide, this has resulted in the ubiquitous presence of NNIs in the environment. However, there is a dearth of information on the range and magnitude of human NNI exposures, and further research is necessary to quantify levels and identify prominent exposure pathways. The EIRE project will create new HBM datasets to quantify occupational and environmental NNI exposures and across several cohorts to understand the total body burden within these groups. It will also investigate the routes and pathways of exposures. The EIRE project will be the first, internationally, to evaluate NNI exposure among occupational groups and produce HBM data for previously understudied groups. EIRE will be the most extensive study of its kind investigating NNI exposures, data that is critically required worldwide to safeguard human health.

References

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8. Connolly A, et al. *Exposure to Pesticides in the Horticultural Sector and Their Contribution to the Total Body Burden*. *Annual Review of Pharmacology and Toxicology*. 2018;58(1):47-72. [47-72]. Available from: <https://doi.org/10.1146/annurev-pharmtox-060117-053111>

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Feasibility of Establishing a National Human Biomonitoring Programme for Ireland. The HBM4IRE study

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Background

Many EU initiatives are aiming for a reduction in chemical use in view of having a 'toxic-free environment', to enable this will involve action at the national level. Human biomonitoring (HBM) provides a systematic assessment of chemical exposure and can play a decisive role in national and EU warning and action systems. Several EU countries have well-established national HBM programmes that demonstrate the potential for HBM to protect the environment and public health. Ireland has participated in previous studies on harmonising HBM studies (e.g., DEMOCOPHES), but does not have a national HBM programme.

Aim

The HBM4IRE (Human Biomonitoring for Ireland) feasibility study aims to evaluate the necessary criteria for establishing a permanent national HBM programme in Ireland. HBM4IRE will present the first building blocks for the national programme, as well as the chemical prioritisation method and a priority list specific to Ireland and identify opportunities and challenges for a national HBM programme.

What We Will Do And Why

A national survey seeking input from policy-makers, regulators, and the general public. To nominate the chemicals and substances of policy and societal concern from an Irish perspective.



Host a National/International stakeholder forum & workshop with international experts in HBM and chemical exposure sharing expertise. Invited stakeholders from central and local government and associated governing bodies alongside members from the scientific community will participate in a SWOT analysis to identify principal areas of focus. To explore prefeasibility and logistical requirements for setting up a national human biomonitoring programme.

Align with studies in Europe such as the Human Biomonitoring for Europe and Partnership for the Assessment of Risks from Chemicals. To further recent advancements made in the harmonisation of HBM for surveillance of chemical exposures.

Undertake a literature review of human biomonitoring (HBM) national surveillance programmes using European data archives and national HBM programmes. To identify best practice and state-of-the-art monitoring of chemicals in line with EU regulations and guidance.

To determine a priority list of chemicals of interest for Ireland we will combine chemicals nominated from the national survey with national chemical usage data. We will follow HBM4EU strategy utilising a tiered approach and weighted scoring system to develop a chemical prioritisation list. Chemicals must already be listed on other national/international lists or nominated at least twice during stakeholder engagement to be included in the final list. To provide a priority list of chemicals for ongoing monitoring and assessment in Ireland.

Discussion

HBM programs have been established in several countries globally to monitor the levels of chemical exposures in their populations over time to better qualify health risk assessment of national and international interest. A national HBM program will support government and regulatory authorities enforce legislation to reduce exposures to chemicals. The HBM4IRE feasibility study will evaluate the necessary building blocks to enable establishment of a permanent national HBM program for Ireland.

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A Themed Session

Your team/work colleagues want to deliver a talk on a collective idea.

- 60 minutes (3 – 4 speakers)
- Similar approach/theme
- Use of similar sampling protocols for different substances (i.e. air sampling/HBM)
- Session on new technologies



A Workshop

Your team/work colleagues want to deliver a talk on a collective idea but also include discussions/interaction.

- Similar to themed session with an additional time for audience engagement
- 90 minutes (3-5 speakers and 20 – 30 minutes for discussion with the speakers and the audience).



Professional Development Course (PDC)

Are you a trainer?

Do you have some tips and experience in a particular subject that would be of interest to occupational hygienists?

Short training session - 3 hours.



Broad Themes

The Role of the Occupational Hygienist in the Future World of Work

Examples:

Emergency response preparedness

Automation

Remote working

Small and Medium Enterprises (SMEs)



Innovative technologies and monitoring

Examples:

New technologies

Real-time monitoring

Wearable sensors

Low-cost sensors



Exposure assessment

Examples:

Human biomonitoring

Indoor air quality

Physical Agents

Modelling



Beyond Compliance

For example:
Total Worker Health
Mental Health
Health and Well-being



How to submit?

- Register on Oxford Abstracts

Need:

Short title

- If case study, start the title with 'Case Study'

Name of contributors

- Include who will present (i.e. presenter needs bio ~50 words)

Describe the work or idea that you want to present in 250 words or less.

Identify topic area for your contribution

We are here to help!

We have designed an abstract template to help with the process

Abstract*

Please enter an abstract of your presentation (max 250 words). It should contain sufficient detail/data to understand the broad aims, methods and outcomes of the work.

[250 words]

Example:

Introduction [describe the background of your research/case study or initiative]

Methodology [Describe the method/steps you undertook to complete this research/case study/initiative]

Results [Describe the quantitative/quantitative results or the outcomes from the research/case study/initiative]

Conclusions [Describe the overall outcomes from this research/case study/initiative and describe future ambitions or uses for these outcomes].

Important information

Deadline is Monday, 2nd October 2023.

More information available at our website:

<https://www.ohireland.org/>

Guidance and template are available at the website: <https://www.bohs.org/events-networking/events/upcoming-events/detail/ioha-2024/>



The screenshot shows the OHSI (Occupational Hygiene Society of Ireland) website. The top navigation bar includes links for HOME, ABOUT, EVENTS, MEMBERSHIP, SPONSORSHIP, PAST CONFERENCES, CONTACT, and a Log In button. A dark blue banner with the text "Upcoming events" is prominently displayed. Below this, there is a promotional graphic for "IOHA 2024 SAVE THE DATE". The graphic features a stylized illustration of the Dublin skyline, including the Guggenheim Museum and the Aviva Stadium. The text on the graphic reads: "IOHA 2024", "SAVE THE DATE", "9th - 13th June 2024 | Aviva Stadium Dublin, Ireland", and "The 13th IOHA International Scientific Conference". To the right of the graphic, the text "IOHA 2024" is displayed in a teal color. Below this, a dark blue button with the text "Click here for further details" is visible.

Key messages

Abstract only 250 words

Reduce rate for speakers

First time IOHA has come to Ireland
~600 – 1000 attendees expected

Showcase Irish talent

Support OHSI



