

Press release

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Basic information

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Department of: Public Health

Main supervisor: Vivi Schlünssen

Title of dissertation: "Exposure to pesticides in present-day use, diabetes mellitus and lung function impairment"

Date for defence: June 16, 2020 at (time of day): 2 PM / 14.00 Place: Samfundsmedicinsk Auditorium, Bygning 1162, rum 101, Bartholins Allé 4, DK-8000 Aarhus C

Press release (Danish)

Øger udsættelse for insektgifte risikoen for at udvikle diabetes og nedsat lungefunktion?

Et nyt ph.d.-projekt fra Aarhus University, Health, undersøger om der en sammenhæng mellem udsættelse for visse insektgifte og risikoen for at udvikle diabetes og nedsat lungefunktion. Projektet er gennemført af Martin Rune Hassan Hansen, der forsvarer det d. 16/06 kl. 14.

Flere epidemiologiske studier har vist, at udsættelse for visse pesticider øget risikoen for at udvikle diabetes mellitus og få nedsat lungefunktion. Mange af dem er dog tværsnitsstudier, som ikke har taget tilstrækkelig højde for andre faktorer, der kan påvirke risikoen for diabetes og nedsat lungefunktion - fx køn, alder og livsstilsfaktorer. Formålet med Martin Rune Hassans ph.d.-studie var at undersøge sammenhængen mellem udsættelse for insektgifte, der hæmmer enzymet acetylkolinesterase (organofosfater og karbamater), og hhv. niveauet af blodsukker og lungernes funktion i et stærkt studiedesign, som også tager højde for andre risikofaktorer.

Data til studiet er indsamlet gennem et projekt om diabetes i Nepal og et studie blandt 364 lokale småbønder i Uganda. Studiet kunne ikke påvise en sammenhæng mellem udsættelse for insektgifte, der hæmmer acetylkolinesterase, og udvikling af diabetes. Men det påviste en statistisk signifikant sammenhæng i forhold til nedsat lungefunktion hos småbønderne fra Uganda. Udsættelse for denne type af insektgifte bør derfor begrænses mest muligt.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 16/05 kl. 14 i Samfundsmedicinsk Auditorium (Bygning 1162, rum 101), Aarhus Universitet, Bartholins Allé 4, 8000 Aarhus C. Efter forsvaret afholder Institut for Folkesundhed en lille reception i nærheden af auditoriet. Grundet situationen omkring COVID-19 er der risiko for, at forsvaret skal flyttes online. Det er derfor nødvendigt at tilmelde sig både til ph.d.-forsvaret og den efterfølgende reception. Det kan man gøre ved at sende en mail til Vibeke H. Gutzke på vhgu@ph.au.dk.

Titlen på projektet er "Exposure to pesticides in present-day use, diabetes mellitus and lung function impairment". Yderligere oplysninger: Ph.d.-studerende Martin Rune Hassan Hansen, e-mail: martinrunehassanhansen@ph.au.dk, tlf. +45 28 18 32 59.

Bedømmelsesudvalg:

Lektor Karin Biering, ph.d. (formand for bedømmelsesudvalget og moderator for forsvaret)

Institut for Folkesundhed, Aarhus Universitet

Institut for Klinisk Medicin, Arbejdsmedicinsk klinik, Regionshospitalet i Herning

Professor Martie van Tongeren, MSc, PhD

Centre for Occupational and Environmental Health, School of Health Sciences, University of Manchester, Manchester, United Kingdom

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Institut for Sundhedstjenesteforskning – Miljømedicin, Syddansk Universitet

Press release (English)

Does exposure to insecticides increase the risk of diabetes mellitus and lung function impairment?

A new PhD project from Aarhus University, Health, examines whether there is a connection between exposure to certain insecticides and the risk of developing diabetes mellitus and lung function impairment. The project was carried out by Martin Rune Hassan Hansen, who is defending his dissertation on June 16 at 2 PM.

A number of epidemiological studies have indicated that exposure to some classes of pesticides may increase the risk of developing diabetes mellitus and lung function impairment. However, many of the studies were cross-sectional and did not account for other known risk factors of diabetes mellitus and lung disease - such as sex, age and lifestyle factors. The purpose of the PhD project of Martin Rune Hassan Hansen was to examine the correlation between exposure to cholinesterase inhibiting insecticides (organophosphates and carbamates), blood sugar levels and pulmonary function in a strong study design while accounting for known risk factors.

Data were collected as part of a study on diabetes in the general population of Nepal, and among 364 smallholder farmers in Uganda. The study did not show a correlation between exposure to cholinesterase inhibitor insecticides and diabetes mellitus. However, it did show a statistically significant correlation with impaired lung function among the smallholder farmers in Uganda. Hence, exposure to cholinesterase inhibitor insecticides should be minimized.

The defense is public and takes place on June 16 at 2 PM in Samfundsmedicinsk Auditorium (Bygning 1162, rum 101) at Aarhus University, Bartholins Allé 4, DK-8000 Aarhus C. After the defense, the Department of Public Health will host a small reception near the auditorium. Due to the changing COVID-19 situation, registration is mandatory, as the event may need to be held online instead. To register, please contact Vibeke H. Gutzke at vhgu@ph.au.dk

The title of the project is "Exposure to pesticides in present-day use, diabetes mellitus and lung function impairment". For more information, please contact PhD student Martin Rune Hassan Hansen, email: martinrunehassanhansen@ph.au.dk, Phone +45 28 18 32 59.

Assessment committee:

Ass. Prof. Karin Biering, MHS, PhD (chairperson and moderator of the defense)

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