

Media release

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Basic information

Name: Anneli Clea Skjelmose Bolund Email: abol@ph.au.dk Phone: 21255447

Department of: Public Health

Main supervisor: Prof. Vivi Schlünssen

Title of dissertation: Change in lung function - The impact of organic dust exposure as well as associations with DNA methylation signatures

Date for defence: 20/1-2017 at (time of day): 11:30 Place: Public Health Auditorium, Build. 1262, Aarhus University, Bartholins Allé 4, 8000 Aarhus C

Media release (Danish)

Risiko for øget fald i lungefunktion blandt kvinder udsat for organisk støv

Kvindelige arbejdere udsat for organisk støv i landbrugsindustrien og møbelindustrien risikerer et øget fald i lungefunktion over tid. Det viser et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af læge Anneli Clea Skjelmose Bolund, der forsvare det d. 20/1-2017.

To store erhvervskohorter med lang follow-up tid, lungefunktionsmålinger samt personlige støvmålinger ved start og slut er blevet brugt til at udforske sammenhængen mellem udsættelse for organisk støv og ændring i lungefunktion. Et 15 års follow-up studie af unge Danske landmænd har vist at de som fortsat arbejder som landmænd har en dårligere lungefunktion end de der er holdt indenfor landbruget, særligt blandt kvinder. Der kunne dog ikke ses en eksponerings-respons sammenhæng mellem støveksposering og ændring af lungefunktion i denne kohorte af unge landbrugsarbejdere. Til gængæld bekræftede re-analyser af et 6 års follow-up studie på arbejdere i møbelindustrien, at kvindelige arbejdere havde et øget fald i lungefunktion med øgede niveauer af støv, samt øget risiko for at få KOL (Kronisk Obstruktiv Lungesygdom). PhD studiet viste også blandt enæggede tvillinger en sammenhæng mellem lungefunktion og DNA-methyleringsgrad i gener involveret i forskellige biologiske processer som måske har betydning for lungefunktionen.

Vore resultater understøtter at man fortsat bør fokusere på at holde eksponering for organisk støv nede i arbejdsmiljøet for at undgå sundhedsskadelige virkninger på lungefunktionen, særligt for kvinder. Desuden er det nødvendigt at vi fortsat udvider vores forståelse af de biologiske processer bag nedsat lungefunktion.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 20/1-2017 kl. 11:30 i Folkesundheds auditorium, bygn. 1262, Aarhus Universitet, Bartholins Allé 4, 8000 Aarhus C. Titlen på projektet er "Change in lung function - The impact of organic dust exposure as well as associations with DNA methylation signatures". Yderligere oplysninger: Ph.d.-studerende Anneli Clea Skjelmose Bolund, e-mail: abol@ph.au.dk, tlf. 21255447.

Media release (English)

Risk of excess decline in lung function among females exposed to organic dust

A new PhD project from Health, Aarhus University, shows that female workers exposed to organic dust in the farming industry and the furniture industry have a risk of excess decline in lung function. The project was carried out by Anneli Clea Skjelmose Bolund, a doctor who is defending her dissertation on 20/1-2017.

Two large occupational follow-up cohorts with lung function measurements and personal dust measurements at start and end were used to explore the association between exposure to organic dust and change in lung function. A 15 year follow-up studie of young Danish farmers found that being a current farmer compared to an ex-farmer was associated with a negative effect on lung function, more so for women. However, an exposure-response relation between levels of dust exposure and change in lung function was not found in this cohort of young farmers. On the other hand, re-analyses of a 6 year follow-up studie of workers in the furniture industry konfirmed that female workers had an excess decline in lung function with increasing levels of wood dust exposure, as well as an increased risk of developing COPD (Cronic Obstructive Pulmonary Disease). The PhD-study also included a study of identical twins showing an association between lung function and level of methylation in genes involved in different biological processes of potential importance for lung function.

In conclusion the exposure to organic dust in occupational settings should be kept down in order to avoid adverse health effects on lung function, especially among women. Furthermore, we need to continue expanding our understanding of the biological processes underlying the impaired lung function.

The defence is public and takes place on 20/1-2017 at Public Health Auditorium, bulid. 1262, Aarhus University, Bartholins Allé 4, 8000 Aarhus C. The title of the project is "Change in lung function - The impact of organic dust exposure as well as associations with DNA methylation signatures". For more information, please contact PhD student Anneli Clea Skjelmosse Bolund, email: abol@ph.au.dk, Phone +45 21255447.

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