

Short Term Scientific Mission (STSM) Report

STSM details

Title	Hand eczema amongst healthcare workers-an intervention study
Participant	Ionela Manole, Colentina Clinical Hospital, Bucharest, Romania
Host	Sanja Kezic, AMC, Coronel Institute of Occupational Health Amsterdam, Netherlands
Period	15 – 19 February 2016

Background

Occupational hand eczema (OHE) represents almost 30% of the total amount of occupational diseases in Europe. This problem implies high costs in principal because of the low productivity. It also determines a decrease of the patients' quality of life. Unfortunately, Romania doesn't have statistics regarding this issue. Three main activities seem to have a higher involvement in OHE: construction workers, hairdressers and nurses. An intervention study is prepared at the Colentina Clinical Hospital, Bucharest, with the aim to investigate the influence of wet work exposure for the risk of developing hand eczema in nurse students. The study will be directed on nurse students who will be evaluated using questionnaires, HECSI score, TEWL measurement and NMFs measurements by tape strips in order to appreciate stratum corneum damage.

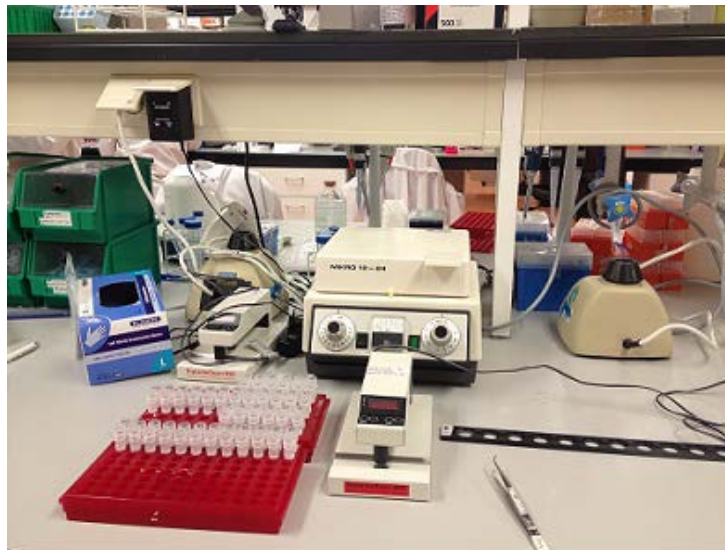
Purpose of the STSM

The aims of this STSM were to learn new techniques regarding tape stripping for the NMF measurement, to evaluate TEWL and moisture level of the skin in order to be able to use these techniques for our future study.

Work carried out during the STSM

Dr. Kezic and her team (Sjors Koppes and Maryam Soltanipoor) at the AMC and the Coronel Institute of Occupational Health taught us all the necessary aspects for the proper development of our future intervention study. In our first meeting, they provided us with many informative documents in order to become familiar with what we'll have to do. We discussed the study protocol. Maryam Soltanipoor currently preparing a similar study about skincare in healthcare workers explained her study design and shared her experiences. The following day, we were familiarized with the stripping

technique for the NMF study and we went to the laboratory to see how our samples are processed in order to obtain the final results.



SquameScan used for OD measurement

We made the measurements of TEWL (using different devices) and skin moisture of the skin (baseline) on the dorsal part of the hand, after that we collected 5 successive strips and after all the strips we measured again TEWL and moisture level of the skin. The strip samples were analyzed using SquameScan, a device designed for the measurement of the optical density (OD) and to assess the amount of stratum corneum on the tape.



Instruments needed to perform measurements

The next days were spent in the laboratory with a trained laboratory analyst, following the processing of the samples in order to obtain the final results of the NMF. I also spent time with Dr. Kezic and her team to discuss our own study protocol, how to organize our activity during this study and, very important, how to collect the data and how to set up the statistics.

Main results obtained

It was very important for me to understand and to learn how an intervention study must be organized in order to obtain results which can be used for statistical analysis. Furthermore, I wanted to be involved in all steps of the sample analysis, in order to see what problems can be encountered in the laboratory. This will help me to be sure that the samples in our study will be correctly collected from our subjects and so we will be able to well interpret the obtained results.



Working in the laboratory

Future collaboration with the host institution

At our return to Bucharest, we intend to start an intervention study with the aim to prevent the development of hand eczema in apprentice nurses. For a proper development of the study, we will collaborate with Dr. Kezic and her team at Coronel Institute and we will send them the tape strips from our participants to evaluate the the natural moisturizing factor (NMF) in Amsterdam.

Foreseen publications/articles resulting from the STSM

I consider that this STSM was very useful for our future study in Bucharest and I will apply the knowledge gained in Amsterdam to achieve good results for our study which will be published in a scientific journal.

Other comments

I would like to thank Dr. Sanja Kezic and her team for sharing with us from their experience and for teaching us new techniques which I know that will be very useful for our future study on hand eczema amongst healthcare workers.

Ionela Manole, MD
Dept. of Dermatovenereolog
Colentina Clinical Hospital, Bucharest, Romania

23 February 2016