A SYSTEMATIC REVIEW ON MEASUREMENT TECHNIQUES OF WORKERS’ EXPOSURE TO NANOMATERIALS IN LOW- AND MIDDLE- INCOME COUNTRIES

Fabio Boccui*, 1Diana Gagliardi, 1Riccardo Ferrante, 2Bruna Maria Rondinone, 2Sergio Iavicoli.
1INAIL – Department of Occupational and Environmental Medicine, Epidemiology and Hygiene, Rome, Italy 2Centro Ospedaliero University of Florence, Florence, Italy
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Introduction Nanotechnology expresses great potential as enabling technology but there are still uncertainties about the health risks for workers potentially exposed to nano-objects and their agglomerates and aggregates (NOAA). Different methodological approaches to measure airborne NOAA in the workplace have been proposed. This study finalised a systematic review on this theme with the aim to identify techniques of exposure measurement to be recommended even in contexts with low resources, such as Low- and Middle-Income (LMI) countries.

Materials and methods We collected scientific papers reporting techniques of NOAA exposure measurements in the workplace and we summarised the data for each eligible technique according to PRISMA guidelines; then we rated the quality of evidence following an adapted GRADE approach.

Results We found 69 eligible studies to be included in qualitative synthesis: the majority of studies reported a moderate quality and only 2 studies demonstrated the use of a high quality exposure measurement technique. The review demonstrates that a basic exposure measurement, i.e. evidence for the presence or absence of NOAA in the workplace air, can be achieved with moderate (40 techniques) to high quality (2 techniques); 13 of these techniques are defined as comprehensive, since they allow also the quantification of NOAA in the workplace.

Conclusions This systematic review allowed identifying criteria for a reliable measurement of exposure to NOAA to be recommended in LMI countries. The findings of the study defined a list of requirements that must be fulfilled by an effective measurement technique (either basic or comprehensive), and highlighted the main weaknesses that need to be tackled for an effective affordability evaluation.

WORKPLACE EXPOSURE PROBLEMS DETERMINED IN CLEANING PROFESSIONALS WORKING IN IZMIR, ANTALYA AND BURSA PUBLIC HEALTH DIRECTORIES

1Serap Gökmen, 1Naile Erçür, 2Yasemin Uçar, 3Deryz İkhrur Antalı, 4Hikmet Arif Çimrin, 5Frederieke Schaafsma, 6Mustafa Kemal Başer, 1Ahmet Özlü, 1Public Health Directorate of İzmir, Turkey; 2Public Health Directorate of Antalya, Turkey; 3Public Health Directorate of Bursa, Turkey; 4Dept. of Public and Occupational Health, VU University Medical Centre, Amsterdam Public Health research institute, Netherland; 6Public Health Institution of Turkey
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Introduction Physical, chemical and biological risk factors exist in workplaces of cleaning professionals. These risk factors at work may cause respiratory, skin, and musculoskeletal health problems for these workers. The prevalence of these health problems caused by occupational risk factors such as exposure to chemicals in cleaning products and physical strain in the workplace of cleaning professionals are not yet fully known in Turkey.

For this reason, the objective was to assess the extent of workplace exposure to occupational risk factors for cleaning professionals of İzmir, Antalya and Bursa Public Health Directors (including subcontractors).

Methods We plan a cross sectional study using a questionnaire on socio-demographic characteristics, risk factors at work, work history, health history, health status, exposures, European Community Respiratory Health Survey II (ECHRS II) questionnaire, Nordic Occupational Skin Questionnaire and the Nordic Musculoskeletal Questionnaire using a face-to-face interview method. The interviews will be performed by trained occupational health and safety specialists from the Public Health Directorates of İzmir, Antalya and Bursa Turkey.