Oral Presentation

Methodology

EVALUATING THE EPIDEMIOLOGICAL EVIDENCE – A COMPARISON OF FRAMEWORKS FOR ASSESSING INDIVIDUAL STUDIES

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To be presented in an accepted mini-symposium

Introduction Frameworks and tools developed to evaluate observational studies of environmental and occupational exposures for systematic reviews draw from similar efforts in the field of healthcare management to achieve increased transparency in assessment conclusions.

Methods This presentation compares approaches developed by U.S. and European government and academic institutions that evaluate risk of bias and sensitivity for observational studies of environmental and occupational exposures. An international collaborative project to adapt a risk of bias tool developed by the Cochrane Collaborative (Risk of Bias in Non-Randomised Studies of Interventions) that will address the varied study designs and exposure assessment methods used in these types of studies is described.

Results Several commonalities are identified, including the use of signalling questions to guide evaluations, outcome-specific rather than study-specific evaluations, and avoidance of numeric scores. All frameworks evaluate participant selection/attrition/exclusion, confounding, reliability and validity of exposure and outcome assessments, and selective reporting. Less consistently used domains are analytic methods, sensitivity, and conflict of interest. The frameworks use different approaches to derive an overall conclusion about risk of bias or confidence.

Conclusion As with narrative reviews, structured frameworks depend heavily on expert judgement requiring the involvement of reviewers with the correct discipline-specific expertise. The transparency of the overall evidence integration in a systematic review depends on the knowledgeable and clear presentation of study evaluation conclusions.

The views expressed are those of the author and do not necessarily represent the views or policies of the U.S. Environmental Protection Agency.

Poster Presentation

Respiratory

A CRITICAL EVALUATION OF FRACTIONAL EXHALED NITRIC OXIDE (FENO) AND PULMONARY FUNCTION TEST LEVELS IN BAKERY AND PLASTICS WORKERS

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This study aimed to investigate whether the irritants used in bread and plastic industry cause irritation in the respiratory tract to determine the benefits of adding FeNO measurement method to periodical controls in various business branches.

Our cross-sectional study was carried out 88 workers in the plastics and bread sectors in Istanbul. Our control group consists of 49 people. FeNO levels were measured and the relationship between these parameters and pulmonary function test parameters was investigated. When FeNO levels in control and work groups were investigated, they were found over 25 ppb in 8 persons working in bakery, 11 in plastics, and in 9 of the control group.

When parameters related with respiratory function were evaluated, people whose parameters were found to be lower than 80% were as follows respectively: PEF levels of 29 people (64,4%) working in bakery and in FEF(25-75%) levels of 5 people (11,1%); whereas FeNO values of 26 people (60,5%) among the workers of plastics and FEF(25-75%) levels of 5 people (11,6%) were found to be less than 80%. A statistical significance was found between FeNO and PEF levels which were under 80%. In workers whose FeNO levels were found under 25 ppb and those whose PEF levels were under 80% were found to be significantly high (p=0.03).

Measuring FeNO levels will be helpful to identify the various environmental respiratory irritants at workplaces before