

workers, showed to be an effective and also measurable way to significantly reduce the level of WRS risk at workplace. Head Physicians and Head Nurses of EDs should consider that stress management programs aimed to improve work context factors associated with occupational stress are effective in minimising the impact of WRS on ED workers.

258

THE COMMON SAFETY AND HEALTH HAZARDS AMONG LABORATORY WORKERS IN KALIRO AND IGANGA DISTRICTS, UGANDA

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Introduction According World Health Organisation report 2006, health care facilities around the world employ over 59 million workers who are exposed to a complex variety of health and safety hazards during execution of their daily routine activities. This often exposes health care workers in developing Occupational diseases. Health-care workers (HCWs) need to be protected from these workplace hazards in order to have an adequate workforce of trained and healthy health personnel. The main objective of this study was to inspect and find out the common safety and health hazards among the health workers in the laboratories of the main hospitals in the above districts.

Methods This study was carried out using Uganda's Occupational Safety and Health check list which was administered to 33 respondents working in laboratories of the main Hospitals in the above districts. This study was conducted from August 2016 up to March 2017. The data was collected and analysed using Excel programme.

Results Out of the 33 respondents interviewed, 55% were exposed to biological hazards, 45% had no previous exposure to it, 94% had exposure to physical hazards and 6% had no exposure to it, 6% had exposure to chemical hazards and 94% had no previous exposure, no respondent had reported previous exposure to fire explosion and electrical hazards, 70% had experienced psychosocial hazards and 30% had not experienced it and no respondent had experienced ergonomic hazards at this work places.

Discussion The findings from this study shows that psychosocial hazards is the most common safety and health hazards because of having a lot of work which often results to stress and violence. This is closely followed by biological hazard which is attributed to lack of proper personal protective equipment. No electrical hazard was reported due to remoteness of these areas and no ergonomic was also reported because respondents had no previous to exposure to lifting heavy object.

1648

CURRENT ISSUES FOR HEALTH CARE WORKERS

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Discuss Caring for Displaced Persons, Violence in Health Care Setting, health issues regarding nanotechnology, OH issues for Animal Handlers

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1648a

HEALTH HAZARDS IN VETERINARY CARE

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Veterinary health care workers are exposed to a highly diverse set of hazards similar to human health care workers and include exposures to biological, chemical, enviro-mechanical, psychosocial, and physical agents. This session will provide a review of veterinary health care hazards. Biological hazards include exposures to infectious and zoonotic diseases, animal allergens, and biologic pharmaceuticals. Several biologic agent exposures such as tick-borne and Lyme diseases are of concern and transmission routes for many biological agents are not completely understood. Many personnel suffer from animal allergen exposure and assessments estimates as well as disease are needed. Chemical hazards similar to those in human health care such as disinfectant agents which are continuously used and have been associated with asthma, rhinitis, and contact dermatitis in healthcare workers, and antineoplastic drug exposure, primarily used to treat cancer in dogs and cats are of particular concern. Exposure estimates, hazard knowledge among veterinary personnel related to these agents, and current prevention practices including use of PPE are limited. Enviro-mechanical hazards include sharps risks, and ergonomic risks to unsafe equipment, heavy lifting of both animals and equipment, and awkward postures. With many more women in veterinary health care, reproductive risks are significant from physically demanding work, standing for prolonged periods of time, long working long hours, and chemical exposure. Physical hazards include animal-related injuries such as bites, scratches, and crushing injuries from large animals. Animal noise is a unique hazard in veterinary health care (particularly to dogs) and can contribute to hearing loss. Psychological hazards from work-related stress dealing with the care of sick and injured animals, euthanasia, and with human grief are prevalent requiring much more exploration. Safety culture, attitudes and beliefs around personal safety and the expectation that certain hazards are to be accepted and tolerated remains and must be examined and mitigated.

1648b

NANOTECHNOLOGY IN MEDICAL FIELDS: POTENTIAL APPLICATIONS, TOXICOLOGICAL IMPLICATIONS, AND OCCUPATIONAL RISKS

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Introduction Advances in nanotechnologies over the last years supported the development of nano-sized applications for medical purposes due to their beneficial impact on detection, imaging and treatment of diseases. However, new human health hazards may emerge from nano-medicine, also for

researchers, physicians and all healthcare workers who may become primarily exposed to such xenobiotics during their job tasks. The aim of this work is to discuss promising solutions provided by nanotechnology in medical fields, with a specific focus on critical aspects and research needs for occupational risk assessment and management in this emerging field.

Methods Pubmed, Scopus and ISI Web of Science databases were searched to identify studies addressing potential applications of nanoscale science, and technology for medical aims with attention focused on emerging occupational risks.

Results Favourable optical and chemical nanomaterial properties may enhance medical imaging, as well as molecular and gene diagnostics. Nano-carriers may improve bioavailability, and tissue specificity of drugs. Nanomaterials proved anti-bacterial and anti-viral properties, increased sensitivity to radiation therapy, and supported tissue repair. However, hazard identification of nano-medical formulations, exposure assessment, risk characterisation in lab and clinical settings, and possible risk management strategies for exposed workers resulted still almost unexplored.

Discussion Despite the many proposed advantages for nanomedical innovations, occupational risk assessment and management processes may take advantage from further research aimed to define the toxicological profile of differently characterised nano-formulations, to assess qualitative and quantitative exposure aspects related to the different phases of application, in ordinary work conditions and in case of accidental contacts, to identify biological exposure and early effect indicators to be potentially employed in well-organised health surveillance programs. Overall, this review highlights the importance to define adequate precautionary risk management strategies for workers, and occupational safety practices and policies, in order to develop a responsible consensus on nanotechnology in medicine.

1648c RISK FACTORS OF VIOLENCE AGAINST HEALTHCARE AND SOCIAL WORKERS IN GERMANY

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Introduction Healthcare and social welfare workers are confronted with violence of patients and clients. In a cross-sectional study the frequency and consequences of aggressive assaults on employees in the German healthcare and welfare system were investigated.

Methods At the workplace employees were asked to fill in a standardised questionnaire concerning the frequency and consequences of verbal and physical aggressions within the last year. The questionnaire was adopted from the Staff Observation Aggression Scale-Revised (SOAS-R).

Results 1943 employees from 81 different facilities participated in the survey (response rate 40%). Verbal aggression was experienced by 75% and physical aggression by 55% of the participants. Both forms of aggression occurred more often in workshops and homes for persons with handicaps (95% and 63%) than in nursing care (59% and 56%) or hospitals.

(41% and 43%). 39% of the employees were hit within the last 12 months. About one third of the participants (34%) felt highly strained by recurring aggressions. 38% reported that they were trained at the workplace for dealing with these

critical incidents and 81% felt supported by their co-worker after such an incidence. De-escalation training and supervision had a positive effect on experienced stress (OR 0.6, 95% CI: 0.4 to 0.8).

Conclusion Violence towards nursing and healthcare personnel occurs frequently. Every third respondent felt severely stressed by violence and aggression. Occupational support provisions to prevent and provide aftercare for cases of violence and aggression reduced the risk of incidences and of perceived stress. Research is needed on occupational support provisions that reduce the risk of staff experiencing verbal and physical violence and the stress that is associated with it.

1606 HANDLING OF HAZARDOUS DRUGS IN HEALTH CARE SETTINGS

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1606a HEALTH EFFECTS OF HAZARDOUS DRUGS

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Healthcare workers are exposed to numerous hazardous drugs including antineoplastic agents, antiviral drugs, hormones, and bioengineered/miscellaneous drugs. The National Institute for Occupational Safety and Health (NIOSH) in the U.S. has defined hazardous drugs as those that exhibit one or more of the following characteristics in animals or humans: carcinogenicity, teratogenicity, reproductive toxicity, organ toxicity at low doses, genotoxicity, and toxic profiles of new drugs that mimic existing drugs. The actual risk to healthcare workers depends on drug toxicity, route of drug entry (e.g., inhalation, percutaneous, ingestion), and work practice handling and exposure and controls. Many of these drugs affect human cell systems through DNA damage, interference with cell growth, or may cause mutations. In considering the hazardous nature of the drug, NIOSH examines the dose for animal testing that results in reproductive or developmental toxic effects, any available human data with toxic effects, and those drugs requiring safe-handling practices as determined from the manufacturer. There are many drugs that are considered hazardous and all of these cannot be discussed here. However, examples will be provided as to effects of antineoplastic agents and non-antineoplastic agents. The issue of safety culture is always important in terms of prevention and control strategies and recognition of the harmful effects of these substances.