The First Congress on Industrial Nursing and Paramedicine
December 17-18, 2011, Shiraz, Iran

The First Congress on Industrial Nursing and Paramedicine was held on December 17-18, 2011 in Shiraz, southern Iran. The congress was organized by Fars NIOC Health Organization. It was the first congress of its kind and well-received so that more than 200 people have participated. The congress received more than 100 abstracts, 37 of which were accepted for presentation (24 oral and 13 poster presentations). The first day of the congress was mostly devoted to research in nursing and occupational risks, safety and environment, whereas, most presentations in the second day discussed occupational musculoskeletal disorders, work-related stress disorders, shift work, diabes and hypertension among workers. There were also two panel discussions on research in nursing (on the first day) and shift work (on the second day). All presentations were followed by lively discussions. Delegates were from different research centers of Iran.

Farzaneh Hejazi, BScN,
f_alavi2003@yahoo.com
Congress Executive Secretary,
Fars NIOC Health Organization, Shiraz, Iran

This work is licensed under a Creative Commons Attribution-NonCommercial 3.0 Unported License.
SELECTED CONGRESS ABSTRACTS

The Effect of Polymorphism in NAD(P)H:quinine oxidoreductase on Liver Function Tests and Hematologic Parameters in Workers Exposed to Sour Gas

A Saeedi1*, A Mandegari2

Background: Many pollutants in the environment increase the blood level of free radicals. This problem is more pronounced in environments with high levels of potentially toxic and carcinogenic chemicals. The enzyme NAD(P)H:quinine oxidoreductase (NQO1) has an important role in detoxifying environmental toxic agents. "Sour gas" is a natural gas containing significant amounts of hydrogen sulfide (H2S); Natural gas that does not contain high amounts of H2S is termed "sweet gas."

Objective: To determine the effect of NQO1 polymorphism on liver function tests and hematologic parameters in workers exposed to sour gas.

Methods: In a cohort study, 120 workers exposed to sour and sweet gases and 93 office workers (control group) were studied for liver function test and hematologic profile. DNA was extracted from all participants. Using RFLP-PCR, the extracted DNA samples were studied for polymorphism in NQO1.

Results: Those who were exposed to sour gas had a higher leukocyte count and lower red cell count than those who were exposed to sweet gas. Hematologic profile was significantly altered in those with NQO1 polymorphism who were exposed to sour than sweet gas. Serum AST and ALT had significantly higher activities in those who were exposed to sour than sweet gas.

Conclusions: NQO1 polymorphism and exposure to H2S have important effects on hematologic profile.

Prevalence of Musculoskeletal Disorders among Health Care Workers in Shiraz NIOC Health Organization in 2010

M Maddahi, AA Nasihatkon*, M Keshavarzi

Background: Musculoskeletal disorders (MSD) represent one of the most common occupational health problems in both developed and developing countries.

Objective: To determine the prevalence of MSD among health care workers in Shiraz NIOC Health Organization in 2010.

Methods: In a cross-sectional study, 130 randomly selected health care workers were studied for MSD. Standardized Nordic questionnaire was used for analysis of MSD symptoms.

Results: Of 130 questionnaires distributed, 112 (86.2%) were completed and analyzed. The mean age of participants was 40 years; they had a mean service length of 14.8 years. 83 (74.1%) and 74 (66%) health care workers reported pain in at least one site during past
year and last week, respectively. The prevalence of knee pain, low back pain, and neck pain was respectively, 48.2%, 44.6%, and 38.4% during last year, and 35.7%, 34%, and 26% during last week. Personnel of dentistry unit (87.5%) and, nursing and midwifery (82%) were those mostly complained of MSD.

Conclusion: Personnel of dentistry are at high risk of MSD.

Prevalence of Musculoskeletal Disorders among Health Care Workers in Alborz NIOC Health Organization in 2010

L Jafar Beigi*, HA Jamali

ABackground: Musculoskeletal disorders (MSD) are among important occupational health problems.

Objective: To determine the prevalence of MSD in health care workers in Alborz NIOC health Organization, Karaj, northern Iran in 2010.

Methods: In a cross-sectional study, using standardized Nordic questionnaire, 25 randomly selected health care workers from Alborz health care organization were studied for MSD in 2010.

Results: The most common sites affected were lower back (64%), neck (56%), shoulders (40%), wrists (36%) and knees (36%). There was no association between the frequency of MSD and service length.

Conclusion: Frequent complaints of MSD in health care workers might be attributed to incorrect postures at work. More emphasis should be put on ergonomics and education.

Prevalence of Musculoskeletal Disorders among Workers in a Petrochemical Industry, Shiraz, South of Iran: 2011

N Pargali*, AA Nasihatkon

Background: So far, prevalence of musculoskeletal disorders (MSD) has been studied in many developed countries. MSD is among important occupational health problems.

Objective: To determine the prevalence of MSD among workers of a petrochemical industry, Shiraz, Iran in 2011.

Methods: In a cross-sectional study 1500 questionnaire were distributed among workers of Shiraz Petrochemical Industry. The questionnaire consisted of questions on demography, occupation, residence, type of work, shift work, and cigarette smoking. Standardized Nordic questionnaire was also used to assess MSD in participants. Visual analog pain scale was used to assess musculoskeletal pain in participants.

Results: Of 1500 questionnaires distributed, 1236 (82.4%) were completed and analyzed. 74% of participants reported pain in at least one site. 57% of studied participants reported pain in neck or shoulders: 5% during one day, 11% in last week, and 41% during last year or earlier; on a 10-point scale, the mean±SD reported pain score was 5±3. The most frequently identified risk factors for neck and shoulders problems were doing repeated tasks (22%), sitting for a long time at work (19%) and carrying heavy objects (17%). Residence, type of work, shift work and body posture during work were significantly different (p<0.005) between studied groups.
Conclusions: Prevalence of MSD is high among workers of petrochemical industries. Many variables attribute to developing neck and shoulders pain.

Prevalence of Unsafe Behaviors among Workers of National Iranian Lead and Zinc Company in Zanjan, Northwestern Iran in 2010

S Arghami*, Z Ebrahimi, L Ehsani, R Fallah

Background: Despite recent technological advancements, occupational accidents are still a burden upon industries and society. Most researchers believe that most of these accidents are due to unsafe behavior of workers.

Objective: To determine the prevalence of unsafe behavior among workers of National Iranian Lead and Zinc Company in Zanjan in 2010.

Methods: In a cross-sectional study, behavior of 59 workers was assessed. After identification of unsafe behaviors, characteristics of each behavior and its association with demographic variables were assessed.

Results: Half of the observations confirmed unsafe behavior of workers. We could identify 218 (72.7%) unsafe behaviors (a number of workers had several unsafe behaviors). Not using protective equipment was the most frequent unsafe behavior (n=89, 40.8%) observed. It followed by taking unsafe posture at work (n=79, 36.2%). Distribution of unsafe behaviors was not significantly associated with age, level of education, number of children, service length and place of work.

Conclusion: Prevalence of unsafe behavior is very high. Since these behaviors are not associated with demographic variables, intervention should be made in work environment. More emphasis should put on behavior-based safety.

Epidemiology of Occupational Accidents in Patients Referring to the Emergency Ward of Pars Special Economic Energy Zone in 2010-2011

M Bigharaz*, SM Hashemi, A Haghighi

Background: Assessing the epidemiology of occupational accidents and their causes would help us in better planning and revisiting safety needs and measures. Pars Special Economic Energy Zone in Assalluyeh, southern Iran is an important large petrochemical industry.

Objective: To assess the epidemiology of occupational accidents in patients referring to the Emergency Ward of Pars Special Economic Energy Zone in 2010-2011.

Methods: This cross-sectional study was based on occupational accident reports filed between March 2010 and July 2011 in Emergency Ward of the said center.

Results: During the study period, 941 occupational accident reports were filed. Of these reports, 35.7% was due to trauma, 29.64% cut injuries, 18.49% falling down, 3.5% exposure to chemicals, 3.18% burn, 2.33% electrical injury, and 1.59% due to foreign body injuries. There were 10 deaths due to accidents. The peak incidence (57.48%) occurred between 8:00 and 13:00. Most accidents occurred due to unsafe behavior (47%), lack of appropriate education (40%) and use of inappropriate equipment (10%). Most accidents occurred in May,
August and September (p<0.05). Those aged between 20 and 30 years were affected more frequently (55.68%). The mean±SD age of injured people was 31.2±10.0 years. Temporary workers were more frequently affected (77.26%).

**Conclusion:** To prevent occupational accidents, emphasis should be put on education of workers and audit of safety measures.

**Knowledge of Nurses Working at NION Health Organization Centers of Evidence-Based Nursing in 2011**

K Hashemi Asl¹, T Jafary¹, AA Nasihatkon², P Karimi¹*

**Background:** The most important responsibility of a nurse is patient care. Like other medical subjects, nursing sciences have a short half-life. World Health Organization has recognized the know-do gap as one of the important issues in clinical practice. Evidence-based practice is a new paradigm.

**Objective:** To determine the knowledge of nurses working at NION Health Organization Centers about evidence-based nursing (EBN) in 2011.

**Methods:** In this cross-sectional study, a questionnaire developed by four epidemiologists was distributed to 345 nurses working at NIOC Health Organization in 20 cities of Iran.

**Results:** Of 345 distributed 310 (90%) questionnaires were completed and analyzed. The studied nurses were evenly distributed in clinics and hospital wards. 222 (71.6%) of nurses expressed their linguistic skills as "fair" and 8 (2.6%) as "good." 203 (65.5%) of studied nurses did not have access to the Internet and 249 (80.5%) have never heard of EBN. 221 (71.3%) of nurses were not aware of any web resources on EBN. Ironically, 92% of studied nurses believed that EBN would have a great impact on nurses' practice.

**Conclusion:** Nurses working at NIOC Health Organization have a low knowledge of EBN. Considering the rapid rise in nursing research in the region, we have to pay more attention to education of nurses.

**Prevalence of Hypertension among 18 Years Old or Older Adults in Fars NIOC Health Organization in 2011**

M Tabatabaie*, M Taher Ghashghaie, M Yadollahie

**Background:** Hypertension (HTN) is an important health problem. It would cause cardiovascular, ophthalmic and renal diseases. Knowledge about prevalence of HTN would help us in better planning.

**Objective:** To determine the prevalence of HTN among ≥ 18 years old adults in Fars NIOC Health Organization in 2011.

**Methods:** 200 randomly selected patients who attended Shiraz NIOC Health Organization Polyclinics were interviewed. Blood pressure (BP) was measured from both arms of participants. Body weight and height of each participant were recorded.

**Results:** Of 200 studied participants, 110 (55%) were female and 90 (45%) were male. They had a mean±SD age of 39.6±13.5 years. 38% of participants had a normal BMI, 48.5% had overweight and 12% were obese. 28% of participants had a normal BP, 38% had borderline HTN and 34% had HTN. Of those who had HTN, only 14% knew of their disease. BP had significant correlations with age and BMI (p<0.001). No association was observed.
between BP and shift work or type of work.

**Conclusions:** Patients who attend Fars NIOC Health Organization have a high prevalence of overweight and HTN. More emphasis should put on screening of HTN in our population.

---

**Study of Sharp Injuries in Three Health Care Centers in Shiraz in 2011**

M Koucheki*, F Lotfi

**Background:** Sharp injuries are among important risks in health care workers. More than 20 pathogens are reported to be transmitted by sharp injuries.

**Objective:** To study the prevalence of sharp injuries in 3 health care centers in Shiraz, southern Iran.

**Methods:** Between October 2010, and October 2011, all sharp injuries reported to 3 health care centers of Shiraz—i.e., Chamran Hospital, Nemazee Hospital and Fars NIOC Dayclinics—were studied.

**Results:** A total 130 reports were filed from the 3 studied centers during the study period. Of 130 reports, 14.6% were from Chamran Hospital and 80% were from Nemazee Hospital. Women (66.7%), nurses and nurse aides (44.8%), and physicians (24.8%) were at high risk of sharp injuries. 70% of exposed people aged <30 years. 90% of exposed people had a history of complete vaccination. 63% of exposures were to needle. 14% of exposures were in Fars NIOC Dayclinics, 66% in other two centers (University affiliated hospitals) (p<0.01). The mean±SD age of nurses working in NIOC Dayclinics (39.4±7.8 years) was significantly higher than that of nurses working in university affiliated hospitals (29.9±7.6 years) (p<0.01).

**Conclusions:** Nurses with higher service length are less likely to be injured by sharps. More emphasis should be put on education.

---

**Trend of Nursing Research Production in Eastern Mediterranean Region over the Past Two Decades**

A Simi*, F Habibzadeh

**Background:** Over the past 3 decades, Iran has had a sharp rise in scientific production. With more than 11 times the mean growth of science in world, Iran had also a great acceleration in publishing medical articles.

**Objective:** To assess the number of nursing research publications from countries of the Eastern Mediterranean Region (EMR).

**Methods:** Using PubMed, number of publications in medical sciences and nursing from 21 countries of the EMR and Turkey (as benchmark) was derived for years 1990 to 2010.

**Results:** Despite an accelerating trend in publishing of medical articles in world, number of nursing publications has a steady trend. The trend however, in the region is on the rise. Lebanon and Jordan are two countries in the region with high number of publications. Iran has also a growth in nursing science production larger than that of the mean growth of the region.

**Conclusions:** Nursing research production in the region is on the rise.