

### 227 Occupational Risk Assessment and Risk Management of Antineoplastic Drugs in Acute Care Settings

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#### Abstract

Background:

Antineoplastic drugs (ADs) that are carcinogenic, teratogenic and mutagenic are prescribed to manage cancer and immune diseases. Through patient care activities, many healthcare workers (HCWs) are routinely exposed to ADs.

These drugs are associated with secondary cancers along with established evidence on adverse occupational reproductive outcomes but due to lack of precise exposure assessment tools, evidence regarding occupational cancer risks following long term occupational exposures is limited and there is concern for additional risk due to interaction between multiple drug exposures.

Despite safe handling guidelines, recent evidence describes continued exposure to ADs among HCWs, in particular pharmacists and nurses, and also suggest a wider range of hospital occupations may be at risk.

Methods:

We conducted:

Systematic review of evidence for biological exposures to cyclophosphamide among HCWs and lifetime cancer risks assessments.

Observations and job shadowing of local oncology personnel performing associated tasks. The HCWs' interactions with each other and their environment were monitored for transmission of contamination.

Discussions with stakeholders evaluated the impact of policies, procedures and settings on HCWs' exposures.

Results:

HCW's AD urinary contamination levels have been decreasing over the years. Animal and human models were used to quantify the occupational lifetime risks for cancer. Results based on pharmacists and nurses suggest elevated lifetime risks for bladder cancer and leukemia.

Observations suggest that despite precautionary actions, exposures cannot be controlled without considering the entire hospital AD network. Interviews of stakeholders confirmed the existence of gaps that enable contamination.

Conclusions:

The entire health care facility should be investigated to address gaps in the control of AD exposures through network analysis of contacts and probabilities for contamination for each AD related task; technological improvements are needed for safer preparation, delivery, administration and disposal of ADs; changes in policies are required to address the entire AD system, from 'cradle to grave'.

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### 246 Work ability and fatigue among nursing personnel with and without work restriction

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#### Abstract

Objective:

The inadequate conditions of nursing work have been associated with illness of workers and, consequently, decreasing the Work Ability Index (WAI) and higher levels of fatigue. Often it is observed that sickened workers continue working, performing their activities with restrictions by physical or mental health problems. Thus, we became interested in verifying the association between the work ability index and fatigue among workers who have restriction to perform daily activities or not.

Methods

This is a cross-sectional epidemiological study, with 100 workers of population. It was conducted in medical and surgical units of a University Hospital in Sao Paulo-Brazil. For data collection was applied the WAI and Chalder Fatigue Scale. Data analysis considered the Pearson correlation coefficient to associate WAI and fatigue, and analysis of variance and chi-square test to investigate association between work restriction, gender and working hours.

Results

The analysis showed that there is a moderate and negative correlation between WAI and fatigue ( $r = -0.49$ ), showing an association between lower values of WAI and higher values of fatigue. The working week bigger than 36h showed association with the WAI ( $p = 0.009$ ). Working days less than 36h reduce, on average, 4-point score of WAI. Women presented higher tendency for fatigue (55.7% vs 25.0% for men) or lower average to WAI (43.1% vs 45.8% for men). There was no significant difference for the WAI ( $p = 0.246$ ) and fatigue (0.752) among workers with or without work restriction.

Conclusion

There is a significant correlation between work ability and fatigue of nursing personnel, however it was noted that there is no significant differences of these indexes, considering both workers with or without work restriction.