Chemical safety at work: What’s gender got to do with it?

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Webinar: Gender and chemicals in different sectors
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Key points

Recognising diversity at the workplace, including gender differences, is critical for OSH.

A number of social and biological factors impact the effect that chemicals have on worker health.

Not only may exposure scenarios be different, the impact of exposure may vary.

Increased research is needed on gender aspects of chemical exposures and effects in order to develop evidence-based policies.
Exposure considerations

- Due to differences in social & occupational roles, and prevailing harmful stereotypes, men and women at work face different exposure scenarios in regards to:
  1. the chemicals encountered
  2. the magnitude; and
  3. the duration of exposure

- All of these factors are highly dependent on the work sector and region – difficult to make generalizations
### Occupations by gender

Percent of employment by sex and occupation (ISCO-08 at the 2-digit level), weighted average for 121 countries using the latest year available.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal care workers</td>
<td>12%</td>
<td>88%</td>
</tr>
<tr>
<td>Health associate professionals</td>
<td>24%</td>
<td>76%</td>
</tr>
<tr>
<td>Cleaners and helpers</td>
<td>26%</td>
<td>74%</td>
</tr>
<tr>
<td>General and keyboard clerks</td>
<td>29%</td>
<td>71%</td>
</tr>
<tr>
<td>Health professionals</td>
<td>31%</td>
<td>69%</td>
</tr>
<tr>
<td>Teaching professionals</td>
<td>32%</td>
<td>68%</td>
</tr>
<tr>
<td>Customer services clerks</td>
<td>34%</td>
<td>66%</td>
</tr>
<tr>
<td>Other clerical support workers</td>
<td>39%</td>
<td>61%</td>
</tr>
<tr>
<td>Food preparation assistants</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Personal service workers</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Legal, social and cultural professionals</td>
<td>47%</td>
<td>53%</td>
</tr>
<tr>
<td>Business and administration associate professionals</td>
<td>48%</td>
<td>52%</td>
</tr>
<tr>
<td>Business and administration workers</td>
<td>49%</td>
<td>52%</td>
</tr>
<tr>
<td>Sales workers</td>
<td>49%</td>
<td>51%</td>
</tr>
<tr>
<td>Food processing, wood working, garment</td>
<td>49%</td>
<td>51%</td>
</tr>
<tr>
<td>Business and related trades workers</td>
<td>49%</td>
<td>51%</td>
</tr>
<tr>
<td>Numerical and material recording clerks</td>
<td>49%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Exposure inequities

Trends have shown that men tend to work in industries that include exposures to carcinogenic substances (ILO 2013; Scarselli et al. 2018).

Work predominantly undertaken by women is often presumed to be less hazardous: may receive less attention for critical workplace procedures (risk assessment, worker training, etc.).

Work tools and personal protective equipment (PPE) - poor fit can lead to reduced protection, increase risk to exposure and accidents.

Women have less decision making power, representation (ILO, 2013).
Health effect considerations

- Physiological and hormonal differences create specific susceptibilities to the effects of toxic chemicals
- Female workers are at particularly high risk during child bearing years and pregnancy: even low-doses might elicit dramatic and irreversible effects
- More likely to store chemicals in adipose tissues. Particularly hazardous for chemicals that bioaccumulate (POPs)

- Pesticides in agriculture
- Heavy metals in mining
- Informal sector (E-waste, crafts and manufacturing)
Case study: Women in artisanal gold mining operations

EXPOSURE

• Clear division of labour
• Considered easier, less dangerous work
• Combined childcare

HEALTH EFFECTS

• Reproductive hazard: reduced fertility, spontaneous abortion and congenital deficits or abnormalities
• Bioaccumulation: women more likely to store in their adipose tissues
• Risk for infants and children
Occupational cancers

- Many occupational studies do not report gender disaggregated data, those that do cite an alarming trend of increased cancer rates in female workers exposed to chemicals.

- A different cellular response to oxidative stress between men and women in cancer susceptibility has been hypothesized, raising the question of whether the classification of occupational carcinogens should be gender specific (Ali et al., 2016).
The tip of the iceberg

- OSH research for female workers has focused on limited sectors

- Very few physiological or toxicological studies have been carried out on chemical exposures, and the studies for gender diverse persons are virtually non-existent

- Women’s occupational diseases are often under-diagnosed, under-reported and under-compensated compared with men’s, making it difficult to extrapolate from occupational disease registries
ILO Role and Response

The ILO was founded on the concept of guaranteeing protection for the life and health of all workers.

- More than 50 legal instruments on the protection of workers from chemical hazards.

- **ILO Maternity Protection Convention, 2000 (No. 183)**
  1. Pregnant women should not be obliged to carry out work that is a risk to her (or child’s) health and safety.
  2. Elimination of any workplace risk, additional paid leave to avoid exposure if the risk cannot be eliminated, and the right to return to her job or an equivalent job as soon as it is safe for her to do so.
  3. Recommendation (No. 191): specific risk assessment, management of risks for exposure to biological, chemical or physical agents that are reproductive hazards.

- **Guidelines for Gender Mainstreaming in Occupational Safety and Health** to assist policy-makers and practitioners in taking a gender-sensitive approach for the development and implementation of OSH policy and practice.
Take away points

- Chemical safety at work can no longer afford to be gender-blind
- Different societal roles, expectations and stereotypes = unique chemical exposure scenarios, requiring appropriately designed control measures
- Increased OSH research that is gender sensitive
- Gender based classification of hazards, carcinogens (OELs)
- Gender mainstreaming into policies at all levels
- Unless we recognize, respect and address gender diversity, we will never be able to fully protect workers, their families and their communities
Thank you

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References


Chemicals and Gender: http://gender-chemicals.org/chemical-safety-at-work