



**Awareness of Occupational Disease  
CREOD Research Summary  
March 2023**

## BACKGROUND

A key initial step in prevention of occupational disease is awareness of the exposures and potential diseases. CREOD researchers have studied awareness of occupational skin disease in the services sector and also the design of graphic materials to increase awareness of occupational diseases.

## EXECUTIVE SUMMARY

- Awareness of occupational skin disease is low in the service sector
- Graphics are important in improving the understanding of awareness tools like posters
- Posters to increase awareness and prevention for occupational skin disease and hand-arm vibration syndrome were endorsed by workers with these respective diseases
- Customization to sector and workplace is important in improving the effectiveness of posters

## AWARENESS OF OCCUPATIONAL SKIN DISEASE IN THE SERVICE SECTOR

### TAKE-AWAYS

- **Awareness and knowledge of possible work-related skin disease was low in the service sector.**
- **Barriers to awareness and prevention included a low reported incidence of occupational skin diseases, low priority, lack of training materials, lack of time and cost of training, lack of management support and workplace culture.**

### What is the level of awareness of occupational skin disease in the service sector?

CREOD researchers worked with the Ontario Service Safety Alliance (OSSA).<sup>1</sup> The OSSA was a provincially funded health and safety organization that provided workplace prevention services to service sector workplaces. The study involved surveys and focus groups with both OSSA staff and members of OSSA's four Advisory Committees that were composed of employers from the various sub-sectors.

Survey responses were received from 37 OSSA staff (52% response rate) and 29 Advisory Committee members (56% response rate). The majority (92%) of OSSA staff thought work-related skin disease was a problem in the sector, few thought that those working in the sector recognized it as a problem. Twenty-one percent of Advisory Committee respondents felt it was a problem but the perceived knowledge about it was low. Barriers to both awareness and prevention included low reported incidence that meant it was a low priority and concern, lack of knowledge, multiple causes of skin problems that makes determining work-relatedness challenging, workplace culture, lack of training materials, lack of time, lack of management support, cost, workforce characteristics and lack of prevention standards and practices.

## POSTERS AND GRAPHICS TO INCREASE AWARENESS

### TAKE-AWAYS

- Posters with graphics and pictures were more accessible.
- Posters for increasing awareness of occupational skin disease and hand-arm vibration syndrome were thought to be important methods of increasing awareness by workers who developed these diseases.
- An important feature was customization to the particular sector and workplace.

### Going Beyond Words to increase prevention awareness: How can we improve the Ministry of Labour awareness poster for immigrant workers?

CREOD researchers worked with the Bramalea Community Health Centre which serves a large immigrant population.<sup>2</sup> Immigrant workers are at increased risk of work-related injury and disease. The Ministry of Labour created an awareness poster that must be posted in every workplace to increase awareness of occupational health and safety principles and worker rights. The study was designed to evaluate the use of drawings to convey health and safety messages among immigrant workers.

CREOD researchers worked with artist to develop illustrations to depict key components of the Ministry of Labour poster. Interviews were conducted with seven recent immigrants from the South Asian community to gain an understanding of their health and safety experiences in Canada. A focus group with three of the interviewees explored their perceptions of the Ministry of Labour poster and the images created.

The recent immigrants reported the following barriers to occupational health and safety:

- Workers were afraid to speak up regarding health and safety risks at work because they thought this could put them at risk of losing their job.
- Employers do not always follow-up to make sure workers understand health and safety training.

The following were suggested as ways to improve their health and safety at work:

- Better government enforcement.
- A positive and collaborative attitude between employer and employee could encourage reporting.

Regarding the posters:

- The image rich poster was easy to understand.
- The information on the Ministry of Labour poster was too wordy and quasi-legalistic.
- Thought the Ministry of Labour poster noted that employers must not take action against workers for raising health and safety concerns, they wanted to see more reassurance on the poster that the worker would be protected.
- Using a combination of images and text would allow for different comprehension styles.

## **Development and evaluation of posters to increase awareness and prevention for occupational skin disease and hand-arm vibration syndrome.**

Could we develop a poster that was viewed as effective by workers and could be customized to particular sectors?

### a) Occupational skin disease posters

CREOD researchers worked with Workplace Safety and Prevention Services to develop and evaluate posters to increase awareness of occupational skin disease.

The first phase of the work involved testing a positive and negative image. The positive image was a father with healthy skin holding his child and the negative image was of hand dermatitis. This was tested in two venues; first was the Occupational and Environmental Exposure to Chemicals Conference attended by researchers and policy makers and the second was a Partners in Prevention Conference where attendees participated. In both cases the preference was split. This suggested that we should include both a positive and negative image.

The second phase developed several sets of posters. This started with work with the vehicle sales and service sector. A set of seven posters including a positive and negative image and key prevention strategies were created specific to the vehicle sales and service sector. The intervention occurred over a three month period in three facilities. Two facilities used the posters and one did not and acted as the control. Twenty five frontline workers (mechanics, technicians) were recruited to participate. Twenty three of the workers completed all components of the study including surveys at the beginning and end of the intervention and a follow-up interview at the end of the three month period. Following are key findings from the interview.

- A majority of workers either had or witnessed other workers with skin problems, however, few recognized the warning signs or saw it as a potential risk of the profession
- Barriers to protecting their skin related to gloves included –
  - unavailability of employer subsidized gloves
  - it is unsafe to use gloves doing certain tasks (engine work)
  - they did not see the need to use gloves or that they were uncomfortable
- Barriers to protecting the skin related to skin cleansing included –
  - Using diesel and parts cleaners to cleanse their skin
  - Excessive washing and scrubbing damages the skin
  - Lack of availability of moisturizers
- Response to posters included –
  - Majority thought posters were effective tools for delivering a message but effectiveness decreases with time
  - There was a strong preference for the negative image showing dermatitis
  - Some thought the dermatitis should be more severe

Results of the second survey found that participants reported using gloves more frequently, and because of changes in prevention practices perceive they are less likely to be exposed to agents that can cause skin problems and that they are less likely to develop a skin problem.

The key messages from the work were –

- Employees undervalue the risk and chance of developing occupational skin disease which affects adopting prevention practices.
- There is a disconnect between employer and workers on the provision of protective equipment and skin care products.
- Posters can be effective tools to initiate awareness and may increase participants knowledge and workplace prevention practices.
- Posters may lose their impact over time if new information is not provided.
- Overall, the project results suggest a positive change in prevention practices, heightened awareness of risks associated with developing skin disease and more openness to wearing protective equipment.

Two additional sets of posters, one for hairdressers and one for food services were created. These were developed with input from Workplace Safety and Prevention Services sector specific Advisory Committees. At this point a customizable template was also created and posted on the Workplace Safety and Prevention services website. This allowed companies to go in a customize the images in the posters while maintaining the messaging.

The third phase involved evaluation of the posters by workers with possible occupational skin disease.<sup>3</sup> Sixty patients attending the Occupational Health Clinic at St Michael's Hospital for investigation of possible occupational skin disease completed a survey evaluating the set of seven posters. Ninety-one percent endorsed the usefulness of workplace posters in general and 80% supported poster use in their own workplace. Eighty five percent supported customization by industry or workplace. Sixty five percent reported that posters were used in their workplace but only 12% of these addressed skin conditions. One at a time rotation of the seven posters was favoured by 67%. As to feedback about specific posters, the poster showing the hands with dermatitis was the favourite posters. This poster also scored highest on message clarity (80%), image relatability/understandability (83%) and effectiveness in communicating the importance of occupational skin disease (77%).

#### b) Hand-arm vibration syndrome posters

Following the work on the skin posters, a similar set of posters for hand-arm vibration syndrome (HAVS) were developed and evaluated.<sup>4</sup> There were six posters in the set (the positive image was not used) and they showed construction, mining and manufacturing activities in the images. Fifty workers being assessed for HAVS at the Occupational Health Clinic at St Michael's Hospital completed a survey evaluating the set of seven posters. Fifty one percent worked in the construction sector and 22% in mining. Nearly all the participants reported having posters in their workplace (96%) while only 15% recalled posters related to HAVS in their workplace. There was a high level of agreement (94%) that posters should be industry specific. All participants agreed that the posters were easy to read and 96% noted the content was clear and easy to understand and 94% thought they attracted their attention. The poster that stood out the most was the one with an image of a hand with finger blanching and it also scored highest for message clarity (86%), relatability (82%) and conveying the importance o HAVS (82%).

## REFERENCES

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3. Budd D, Rajaram N, Clynick M, Holness DL. Worker feedback on occupational skin disease posters. *Contact Dermatitis* 2018;79:314-316.
4. Budd D, Holness DL. Raising awareness of hand-arm vibration syndrome (HAVS) using posters. *Work* 2018;61:3-10.