



Skin Exposure Prevention Training in the Workplace

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Research Expertise
in Occupational Disease

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Disclosures

- Ms. Gupta was supported by a research student aware from Centre for Research Expertise in Occupational Disease (CREOD)
- V Arrandale, I Kudla, DL Holness all receive funding from the Ontario Ministry of Labour

Background

- Occupational CD is one of the most common occupational diseases
- Intervention studies involving worker education have demonstrated positive outcomes including changes in behaviour and disease outcomes
- Little detailed reported re: actual training experience of workers exposed to skin hazards who have developed OCD

Objectives

- To examine the training experience of workers being assessed for possible CD, particularly to determine workplace training, both general H&S training and specific training related to skin protection, including the specific components of training to understand which were or would have been the most useful from worker's perspective

Methods

Study approved by REB of St. Michael's Hospital

STUDY PARTICIPANTS:

- Study conducted in an occupational disease specialty clinic; invited to participate if:
 - i) had a possible diagnosis of contact dermatitis;
 - ii) were employed and working or were employed and stopped working because of skin problem;
 - iii) had the ability to complete questionnaire in English
- Potential participants identified by reviewing patient medical files
- Those eligible, approached and given study info letter to read
- Patients willing to participate, completed anonymous questionnaire
- Total of 140 patients consented to study and completed survey



Methods

- Individuals excluded if:
 - Students
 - Retired or off work due to reasons other than their skin

SURVEY

- Currently, no standardized survey designed to obtain detailed information re: workplace characteristics and prevention practices including training
- Survey tool developed based on previous surveys used in clinic and expert opinion

Methods

SURVEY

- Collected info regarding:
 - Demographics
 - Workplace characteristics
 - Education and prevention practices, including:
 - general OH&S training
 - WHMIS training
 - Skin exposure prevention training
 - Hand washing practices
 - Glove use
 - Skin cream use
 - Detailed info re: content of skin specific and glove training
 - Workers receiving training, asked what training content was useful
 - Workers who reported no skin protection training asked what training content would have been most helpful

Analysis

- Wet work: wearing gloves for >2hrs/shift, having hands in water >2hrs/shift or washing hands >20x/shift
- Those who reported wet work compared to those who did not
- Industry of employment self-reported:
 - Consolidated into three groups: healthcare, manufacturing, other (service, education, construction)
 - Differences between industry groups also investigated
- Statistics
 - Means, frequencies calculated for all variables
 - Student's T-tests, chi square, Fisher exact used for group comparisons
 - Completed using Statistical Analytical System (SAS v. 9.3)

Results: Demographics & Workplace Characteristics

Age/Sex	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	Yes Wet Work N=104 (74%)	No Wet Work N=36(26%)
Age	44 (21-71)	47.6	40.5	43.7	43.6	44.9
Sex (M)	46%	86%	3%	47%	46%	44%

Years at Current Job	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	Yes Wet Work N=104 (74%)	No Wet Work N=36 (26%)
<1 to 5	37%	43%	48%	26%	39%	31%
>5 to 15	31%	21%	35%	34%	31%	31%
>15	32%	36%	17%	40%	30%	39%

Size of Employer	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	Yes Wet Work N=104 (74%)	No Wet Work N=36(26%)
<20	29%	10%	20%	48%	21%	50%
20 to 100	26%	29%	23%	26%	23%	33%
>100	46%	62%	58%	26%	56%	17%

Results: Demographics & Workplace Characteristics

	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	No Wet Work N=36(26%)	Yes Wet Work N=104 (74%)
Unionized	48%	34%	76%	40%	45%	49%
Chemical Hazards	83%	95%	85%	72%	53%	93%
Wet Work	74%	93%	85%	53%	---	---
Co-workers with skin problems	69%	93%	77%	49%	48%	75%

Gloves	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	No Wet Work N=36 (26%)	Yes Wet Work N=104 (74%)
Worn at work	87%	100%	93%	74%	50%	100%

Results: Use of gloves and creams

If Gloves Used	Overall (N=122)	Manufacturing N=42(30%)	Healthcare N=40(29%)	Other N=58 (42%)	No Wet Work N=36(26%)	Yes Wet Work N=104(74%)
Find gloves protective	68%	62%	74%	69%	86%	65%
Cotton liners	24%	31%	19%	21%	28%	23%
Re-useable	41%	61%	11%	47%	61%	36%
>2hrs/shift	68%	95%	69%	48%	0	91%
Supplied by employer	92%	95%	97%	83%	81%	93%

Treatment	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	No Wet Work N=36 (26%)	Yes Wet Work N=104 (74%)
Rx cream use	73%	76%	78%	67%	72%	73%
Non-Rx cream use	77%	64%	88%	79%	83%	75%

Results: Training

Training	Overall N=140	Manufacturing N=42 (30%)	Healthcare N=40 (29%)	Other N=58 (41%)	No Wet Work N=36 (26%)	Yes Wet Work N=104 (74%)
Basic H&S	81%	85%	82%	77%	71%	84%
WHMIS	80%	93%	87%	66%	62%	86%
MSDS Available	88%	95%	84%	40%	71%	93%
Skin	49%	47%	64%	40%	34%	54%

Type of Training	Large Company (>100 workers)	Small Company (<20 workers)
Basic Health & Safety	89%	62%
WHMIS	90%	50%
Skin protection	57%	21%

Type of Training	Unionized	Non-Unionized
Basic Health & Safety	92%	71%
WHMIS	91%	70%
Skin protection	63%	35%

Results: Training Format for Specific Skin Training

Specific Skin Training	Overall N=64	No Wet Work N=11 (17%)	Wet Work N=53 (83%)
Employer provided	83%	91%	81%
Seminar	47%	36%	49%
Demonstration	30%	9%	34%
Poster	20%	18%	21%
Brochure	13%	0	15%

Results: Training Content for Specific Skin Training

Content Provided	Overall N=64	No Wet Work N=43 (31%)	Yes Wet Work N=53 (83%)
Hand washing	92%	91%	92%
Exposure avoidance	87%	82%	88%
Glove use	78%	55%	83%
Info re: creams	52%	27%	58%
Warning signs of skin problems	34%	20%	38%

Results: Training Content for Specific Skin Training

Most Helpful Content	Overall N=64	No Wet Work N=11 (17%)	Wet Work N=53 (83%)
Exposure avoidance	61%	73%	58%
Hand washing	56%	55%	57%
Tasks requiring glove use	50%	45%	51%
Appropriate glove type	34%	18%	38%
How to don/doff gloves	30%	9%	34%
When to dispose of gloves	25%	18%	26%
Info re: skin creams	25%	27%	25%
Glove size	23%	9%	26%
Warning signs of skin problems	22%	18%	23%
Skin care while using gloves	13%	9%	13%

Results: Glove Content for those Receiving Glove Training (and if reported receiving skin exposure prevention training)

Received Training re: Gloves	Overall N=50	No Wet Work N=6 (12%)	Yes Wet Work N=44 (88%)
Tasks requiring glove use	88%	100%	86%
When to dispose of gloves	64%	50%	66%
Appropriate glove type	62%	33%	66%
How to don/doff gloves	62%	17%	68%
Glove size	36%	33%	36%
Skin care while using gloves	34%	17%	36%

Results: View of Important Content - NO Skin Protection Training

Content that would have been useful	Overall N=67	No Wet Work N=23 (34%)	Yes Wet Work N=44 (66%)
Warning signs of skin problems	73%	62%	78%
Exposure avoidance	72%	67%	74%
Info re: skin creams	67%	61%	70%
Skin care while using gloves	46%	14%	61%
Appropriate type of glove	43%	24%	52%
Tasks requiring glove use	36%	19%	43%
When to dispose of gloves	22%	5%	30%
How to don/doff gloves	18%	10%	22%
Glove size	16%	10%	20%



Limitations

- Self-reported data
 - Workers may not remember training received
 - Nonetheless, what is remembered and applied in the course of their work is important
 - Self-reported behaviour is of value in understanding gaps in prevention programs
- Strength of study is diverse representation of industry, particularly by size and unionization status

Key Learnings

- Study found lack of specific training on skin protection in workers with possible CD
- Study provides info on specifics of training and also perceived importance of various components of the content
- Results related to company size and unionization are similar to previous results both from our clinic and the literature
- As wet work is a key risk factor for ICD, informative to understand state of training for workers exposed to wet work
- Demonstrates gaps in prevention particularly related to skin protection training
- Addressing gaps may lead to improved prevention and reduction in CD
- Information from this study may be useful in designing skin protection training programs particularly as workers suggested useful topics