

Vietnamese Nail Salon Workers and Occupational Health and Safety Practices

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Objectives:

1. Describe Vietnamese nail salon workers predictors to adherence of recommended occupational health and safety practices.
2. Discuss policy recommendations for nail salon workers.
3. Describe community based participatory research (CBPR) approaches in collaboration with Vietnamese nail salon workers

Community Partners



Workers at risk



Health Disparities Risk Factors

- **Demographics of Vietnamese Americans**
 - Recent immigrants and growing population
 - 1.7 million in US, growth rates up to 70%
 - 44,000 – Maryland & Northern Virginia
 - 10,000 - Montgomery County, Maryland
 - Limited English-speaking skills
 - >50%
 - Limited job skills, education
 - 16% live in poverty
 - 38% have < high school diploma; 8% none
 - 10.6% - high unemployment rate

Nail Salon Industry Benefits and Challenges


- **Opportunity**
 - 40-50% of nail salons owned by Vietnamese
 - 375,000 nail salon workers / 50% are Vietnamese
 - Offers employment, social networking, community support
- **Challenges**
 - Long work hours
 - Self-employed, booth renters, contractual, commission
 - Mean annual income \$17,000
 - Lack of health insurance, poor health care access

Nail Salon Work - Risky Business

- **Occupational hazards:**
 - Chemical exposures
 - Ergonomic stressors
 - Work practices
 - Language and community barriers
 - Health disparities

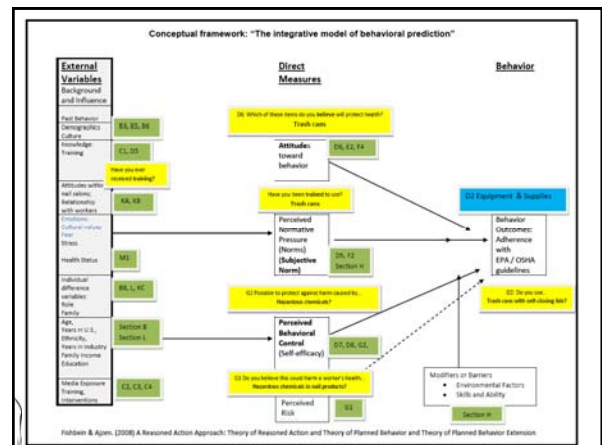
Advocacy for Nail Salon Workers Health and Safety Information

- EPA's guide
 - "Protecting the Health of Nail Salon Workers"
- Oregon Healthy Nail Salon Collaborative
 - "Best Practices Checklist for Nail Salons"
- Professional Beauty Association
 - "Ergonomic Basics for Nail Salon Professionals"



Specific Aim

Identify predictors of adherence to recommended health and safety practices for nail salon work, using a CBPR approach.



Methods

- Community based participatory research (CBPR)
- Integrative Model of Behavioral Prediction
- Cross sectional survey
- Survey completion options:
 - Phone interview
 - Interview assisted
 - **Self-administered**
- Recruitment strategies:
 - Mailed to licensed Vietnamese cosmetologists in Maryland
 - Referrals from community networks
 - **Community events**
 - **Distribution to nail salons**

Recruitment at community events

The collage shows various recruitment activities: a church service, a street event with a sign for 'John's Repair', and a podium with an American flag and a sign for 'CUNG CHU'.

Recruitment in nail salons



Demographic characteristics of Vietnamese American nail salon workers

Characteristic (n=176)	%
Males	20%
Females	80%
Education levels	
<high school	34%
completed h.s.	35%
post h.s., college	31%
Family caregiving	56%
Health status – good or fair	70%
No health insurance	37%

Use and predictors of recommended health and safety practices

- Hazard communication methods
- Health and safety policies
- Personal protective equipment and supplies



Hazard communication in nail salons^a

Hazard Communication	Safety communication present (n = 164)			Believe method will protect health (n = 168)		
	All Workers	Owners and Managers	p-value ^b	All Workers	Owners and Managers	p-value
Written materials about chemicals, in English	88 (53.7)	27 (75.0)	0.004	102 (60.7)	27 (77.1)	0.030
Written materials about chemicals, in Vietnamese	45 (27.4)	7 (19.4)	0.292	127 (75.6)	25 (71.4)	0.510
Labels on containers that hold chemicals	140 (85.4)	32 (88.9)	0.602	130 (77.4)	30 (85.7)	0.260
A list of products that contain hazardous substances	72 (43.9)	15 (41.7)	0.850	127 (75.6)	26 (74.3)	0.830
Training on the effects of chemicals in nail products	50 (30.5)	13 (36.1)	0.420	107 (63.7)	19 (54.3)	0.240
A workplace safety committee	22 (13.4)	3 (8.3)	0.410	63 (37.5)	14 (40.0)	0.850

^aVaries due to missing data.
^bHighest exact: owners and managers compared to nail technicians

Health and safety policies

Policy or Practice	Those who have policy in salon			Those who adhere to policy		
	Workers (n = 168)	Owners / managers (n = 35)	p-value ^a	Workers (n = 172)	Owners / managers (n = 34)	p-value ^a
Washing hands after handling chemicals	156 (92.9)	34 (97.1)	0.46	161 (93.6)	32 (94.1)	1.000
Washing hands after each client	157 (93.5)	34 (97.1)	0.46	167 (97.1)	34 (100.0)	0.59
No smoking in work areas	145 (86.3)	34 (97.1)	0.05	153 (89.0)	33 (97.1)	0.13
No eating or drinking in work areas	143 (85.1)	30 (85.7)	1.000	142 (82.6)	30 (88.2)	0.45
Keeping records of injuries or health problems	46 (27.4)	10 (28.6)	0.84	47 (27.3)	11 (32.4)	0.52

Protective Equipment



Supplies or equipment

Supplies or Equipment	Have supplies or equipment ^a (n = 175)		Use supplies or equipment ^a (n = 171)	
	n	(%)	n	(%)
Gloves	167	(95.4)	162	(94.7)
Face masks	159	(90.9)	144	(84.2)
Goggles	46	(26.3)	47	(27.5)
Tables with built in ventilation	97	(55.4)	92	(53.8)
Chairs adjustable for height	163	(93.1)	145	(84.8)
Chairs that swivel from side to side	147	(84.0)	124	(72.5)
Chairs with back support	165	(94.3)	141	(82.5)
Hand tools that are comfortable	102	(58.3)	89	(52.1)
Wrist supports for nail technicians	43	(24.6)	43	(25.2)
Trash cans with self-closing lids	131	(74.9)	112	(65.5)
Eye wash station	78	(44.6)	68	(39.8)

^an varies due to missing data.

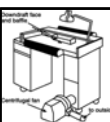
EXAMPLE: TESTING PREDICTOR VARIABLES

Crude odds ratios for use of swivel chairs (odds ratio and 95% confidence interval)

Variable	n	Odds Ratio	95% C.I.
Age (years)	136	1.01	0.97-1.06
Gender: Male vs. Female	141	1.30	0.43-3.89
Received Training about protecting health ***	135	2.82	1.09-7.28
Trained on swivel chairs *****	124	15.33	4.96-47.38
Believe swivel chairs will protect health **	139	2.24	0.87-5.75
Chairs Barrier: Not comfortable	98	1.15	0.37-3.56
Chairs Barrier: Not useful	98	1.14	0.29-4.48
Chairs Barrier: Costs too much *	98	0.45	0.14-1.51
Chairs Barrier: Takes too much time *	98	0.42	0.11-1.59
Chairs Barrier: Only necessary on certain clients	98	1.55	0.54-4.51
Chairs Barrier: Not available	98	0.71	0.26-1.98
Chairs Barrier: Not possible	98	1.36	0.40-4.56
Chairs Barrier: Salon owner does not encourage	94	2.49	0.49-11.09
Owner vs. Worker	142	0.76	0.25-2.29

Fisher's exact: * p < .20; ** p < .10; *** p < .05; **** p < .01; ***** p < .001
Reference groups are: males; non-users of equipment

Adjusted odds ratios for use of tables with ventilation (odds ratio and 95% confidence interval) (n = 85)




Variable	Odds Ratio	95% C.I.
Age (years)	1.00	0.92 - 1.10
Gender: Male vs. female	0.68	0.08 - 5.53
Trained on use of tables with ventilation	7.44	1.25 - 44.24
Believe tables with ventilation will protect health	7.20	1.09 - 47.31

Pseudo R² = 0.193

Reference groups are: males; non-users of equipment

Adjusted odds ratios for use of height adjustable chairs (odds ratio and 95% confidence interval) (n = 94)



Variable	Odds Ratio	95% C.I.
Age (years)	1.00	0.93 - 1.07
Gender: Male vs. female	0.30	0.03 - 2.99
Trained on adjustable chairs	5.59	1.80 - 26.61
Barrier to use: Not comfortable	0.20	0.05 - 0.87
Barrier to use: Only necessary on certain clients	1.63	0.29 - 9.30

Pseudo R² = 0.170


Reference groups are: males; non-users of equipment

Adjusted odds ratios for use of trashcans with self-closing lids (odds ratio and 95% confidence interval) (n=107)


Variable	Odds Ratio	95% C.I.
Age (years)	1.08	0.99 - 1.18
Gender: Male vs. female	0.33	0.03 - 3.24
Trained on trash cans with self-closing lids	4.50	0.94 - 21.54
Believe trashcans with self-closing lids will protect health	6.17	1.42 - 26.83

Pseudo R² = 0.290

Reference groups are: males; non-users of equipment



Adjusted odds ratios for use of comfortable hand tools (odds ratio and 95% confidence interval) (n = 73)



Variable	Odds Ratio	95% C.I.
Age (years)	1.00	0.94 - 1.07
Gender: Male vs. female	0.58	0.08 - 4.46
Trained on hand tools that are comfortable	3.47	0.83 - 14.58
Believe hand tools that are comfortable will protect health	13.58	2.20 - 83.85
Believe possible to protect against harm from putting pressure on arms, wrists, hands	0.78	0.16 - 3.79

Pseudo R² = 0.263

Reference groups are: males; non-users of equipment

Predictors for Using Protective Equipment

- **Chemical exposures**
 - Tables with ventilation
 - Training on tables
 - Belief it is protective
 - Trashcans
 - Training about trashcans
- **Ergonomic practices**
 - Comfortable hand tools
 - Belief it is protective
 - Chairs height adjustable
 - Training on height chairs
 - Chairs swivel
 - Training on swivel chairs
 - Chairs with back support
 - Received general training

CBPR strategies needed to guide next steps

- Success of this study due to multiple CBPR principles
 - Long standing involvement with community
 - Attendance at numerous community events, several years
 - Recruitment materials & surveys in Vietnamese
 - Support from community networks and leaders
 - Affiliation with community advocacy agencies
 - Vietnamese research assistants
 - Values of participants - "Happy to help my community."
 - Training continues led by Vietnamese community agencies

Final recommendations

- **CBPR:**
 - Explore strategies for reaching hard to reach immigrant populations
- **Policy:**
 - Require continuing education for re-licensure of nail salon workers
 - Workplace safety monitoring
 - Change labor classification
 - Control chemicals used in industry
- **Education:**
 - Use technology for health & safety information
 - Include ergonomic education
 - Determine best methods for behavioral change

Beliefs about continuing education

All Workers
(n = 176)

	n	%
Continuing education would protect health:		
Agree	115	(65.3)
Disagree	24	(13.6)
Continuing education should be required when licenses renewed:		
Agree	77	(43.8)
Disagree	43	(24.4)
Don't know	44	(25.0)

Preferred sources of continuing education & health information recommended by workers

	n	%
Internet	100	(60.0)
Beauty school	87	(49.4)
Industry magazines	103	(58.5)
Other workers	55	(31.3)
Owners	81	(46.0)
Suppliers	54	(30.7)
Education sessions in salon	43	(24.4)
Education sessions in community	39	(22.2)
Written materials	88	(50.0)

New advocacy by OSHA

- New web pages and factsheets
- Recommended by National Healthy Nail and Beauty Salon Alliance

Stay Healthy and Safe
While Giving Manicures
and Pedicures

A Guide for Nail Salon Workers

U.S. Department of Labor
Occupational Safety and Health Administration
OSHA 3141-05 2012



.... and they lived happily ever after.

The Future



Beauty – an important value

