



Nail Salon Makeover: Health, Safety, and Wellness in Vietnamese Nail Technicians

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Introduction

Nail salon workers breathe and absorb harmful chemicals daily, putting them at risk for long-term health problems, such as respiratory and potential reproductive problems. Many women immigrants are attracted to work in the nail salon industry in the United States because the training is short and inexpensive, and workers do not need to be fluent in English to be successful (Quach et al., 2011). It is estimated that about 40% of nail salon workers are Vietnamese, with an even higher percentage on the east and west coasts (Roelofs, Azaroff, Holcroft, Nguyen & Doan, 2007). The typical immigrant nail salon worker is a female of childbearing age. This is a concern because the chemicals handled in the nail salon are virtually unregulated (Quach et al., 2011; Quach, Liou, Fu & Mendiratta, 2012). In fact, nearly 89% of the ingredients used in the cosmetic's industry have not been evaluated for safety (Quach et al., 2010).

The community of nail salon workers has been difficult for researchers to access. Gaining access and building the trust of this community has been done most effectively through community-based participatory research. The Center for Research on Occupational and Environmental Toxicology (CROET) partnered with Asian Health and Service Center helped us circumvent these barriers.

Goals

1. Build a relationship with Asian Health and Service Center (AHS) to conduct community based participatory research
2. Administer a survey to learn more information about the health concerns, practices and knowledge of the Vietnamese nail salon workers in Portland
3. Utilize survey information to develop and evaluate culturally appropriate health and safety materials

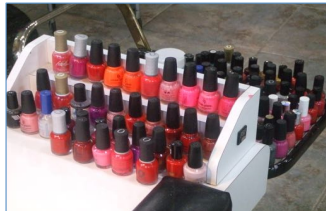
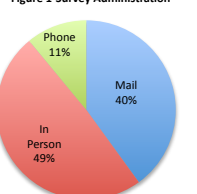
Methods

Survey Administration

The survey was adapted from a survey created by the California Healthy Nail Salon Collaborative, and it was administered by Vietnamese speaking AHS staff.

- Vietnamese nail salon workers were contacted by staff and invited to participate in our study
- The survey consisted of 15 demographic and basic salon items, 7 health items, 8 workplace environment items, 3 nail product items, and 8 items about concerns and questions
- They were given the option to complete the survey in person, over the phone, or at home and mail in the survey
- A \$5 gift card to a grocery store was given as an incentive for completing the survey
- A Vietnamese "Best Practices" informational brochure was also given to the salon workers

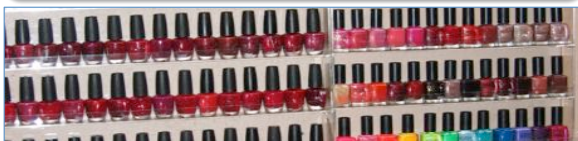
Figure 1-Survey Administration



Development of Materials

A desk calendar was developed with general safety and health tips. Survey responses on nail salon worker's concerns were used to select topics for developing resources, as well as how to best administer them. Using existing materials, brochures were developed on the following topics:

- Material Safety Data Sheets (MSDSs)
- Ergonomics
- Owner's Guide
- Healthy Practices
- Health Resources



Results

Who are the Nail Salon Workers?

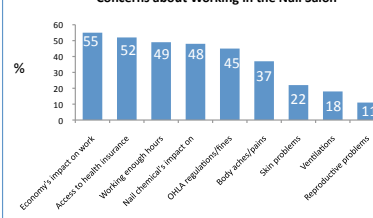
Participants (n=65) were recruited by using a convenience sample of owners and nail technicians in Portland. The average number of years working in a nail salon was 6 years (Range=0.5-19). Characteristics of the sample are summarized in Table 1.

Demographics of Nail Salon Workers	% (n)
Racial Background	
Vietnamese	98(64)
Chinese	2(1)
Gender	
Female	94(61)
Male	6(4)
Level of fluency in English	
Very fluent	8(5)
Somewhat fluent	52(32)
Not very fluent	40(25)
Position at nail salon	
Owner/Manager	12(8)
Worker	88(57)
No. of hours working per week	
10-20	14(9)
20-30	16(10)
30-40	40(25)
40-50	22(14)
50+	8(5)



Figure 2

Concerns about Working in the Nail Salon

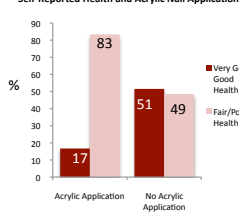


Concerns and Self-Reported Health Problems

The most frequent concerns of this sample were the effect of the economy, access to health insurance, and working longer hours (Figure 2). The nail chemical's impact on the body was the 4th most common concern about working in a nail salon.

The top four self-reported health problems that began after starting to work in a salon were nose irritations (30%), allergies (29%), skin irritations (14%), and stress (14%).

Figure 3 Self-Reported Health and Acrylic Nail Application

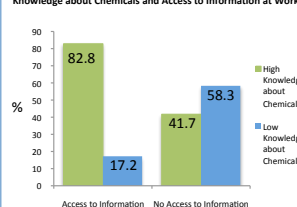


Self-Reported Health and Acrylic Nail Application

One thing that we were interested in is the difference in health between nail salon workers who apply acrylic nails, and those who do not. Research documenting negative health effects from working in nail salons usually focus on acrylic nail applications because more harsh chemicals are used compared to those used for standard manicures/pedicures. Our results support this previous research (Figure 3). We found a negative association between acrylic nail application and health self-reported health ($p < .004$). A higher number of participants who apply acrylic nails rated their health as fair or poor than the nail salon workers who do not apply acrylic nails.

Figure 4

Knowledge about Chemicals and Access to Information at Work



Knowledge about Chemicals and Access to Information at Work

Being able to access health and safety information at work was positively associated with a higher level of knowledge of nail chemicals and their potential health effects (Figure 4, $p < .001$).

This indicates that easy access to information, such as in the workplace, is an important factor to improve the knowledge of the chemicals that nail salon workers work with daily.

Workplace Environment

Ventilation

Ventilation is an important control to reduce exposures in nail salon workers. The most common form of ventilation reported was a shop ventilation system. 62% of participants always use a shop ventilation system, 49% always use a table ventilation system, 38% always keep a window/door open, and only 20% always use a ceiling fan.

Personal Protective Equipment (PPE)

While performing a standard manicure/pedicure, these are the self-reported habits of nail salon workers:

Glove Use	Mask Use
•92% always wear gloves	•29% always wear a mask
•4% sometimes wear gloves	•4% sometimes wear a mask
•2% rarely wear gloves	•11% rarely wear a mask
•2% never wear gloves	•41% never wear a mask

Table 2

	Yes	No
Do you apply acrylic nails?	48% (n=30)	52% (n=33)
Do you have health insurance?	48% (n=31)	52% (n=34)
Did you ever become pregnant and continue to work at a nail salon?	32% (n=19)	68% (n=41)
Do you know what an MSDS is?	55% (n=35)	45% (n=29)
Can you access information about health and safety at your job?	45% (n=29)	55% (n=36)
Are you interested in learning more about a safer and healthier workplace?	89% (n=57)	11% (n=7)



Disseminating Information

The majority (92%) of nail salon workers were interested in learning about a safer and healthier workplace. Brochures (57%) and the internet (51%) were the most preferred way that nail salon workers wanted to receive information (Figure 5). Interestingly, 89% of nail salon workers said they would be willing to use the internet to access health and safety information.

Figure 5

Preferred Ways to Receive Safety Information



Discussion

This study built a strong partnership between AHS and CROET. Researchers learned more about the Vietnamese nail salon community and culture, as well as the support and services available to them. AHS participated in developing and determining culturally appropriate questions for the survey. This project allowed AHS to expand to a new population.

The survey identified demographic characteristics and concerns of the local nail salon workers. We also learned about the positive association between acrylic nail application and poor health conditions, supporting previous research indicating that chemicals used in acrylic nail applications are more harsh than those used in a standard manicure/pedicure. It was also interesting that having access to health information at work was associated with a higher level of knowledge about the chemicals.

Next Steps

The information developed in the brochures and the calendar will soon be translated into Vietnamese and evaluated by nail salon workers so more nail salon workers will be able to access them. Based on survey results, brochures will be provided to nail salons as well as uploaded and expanded upon on the Oregon Collaborative for Healthy Nail Salons (OCHNS) website (<http://www.oregonhealthynailsalons.org>).

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Acknowledgements

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