JULY 2018

Evaluation Report

OCCUPATIONAL HEALTH AND SAFETY TRAINING IN NAIL SALONS

Prepared for:

The Parkdale Queen West Community Health Centre

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1. INTRODUCTION

In 2016, the Parkdale Queen West Community Health Centre (PQWCHC) received funding from the Ontario Ministry of Labour to develop and carry out occupational health and safety training in nail salons. The project builds on models of prevention and intervention used in Community Health Centres, and from nail salon health and safety work observed in in New York and California. These models use a peer-led approach to engage salon owners and technicians in the process of making their salons healthier environments. This work is part of a broader collaborative initiative to improve working conditions in Toronto-based discount nail salons.

The PQWCHC engaged an external evaluator to help assess the effectiveness of the peer-led training model in the context of the nail salon industry in Toronto. Findings from the evaluation will be used to support decision making around project improvements and viability of scaling up the intervention.

1.1 EVALUATION QUESTIONS

The evaluator worked in collaboration with the project coordinators, peer educators and the Healthy Nail Salon Network to identify key information needs and research questions.

Evaluation questions:

1. To what extent was the project implemented as planned?
2. To what extent did the workshops increase protective behaviours among nail technicians (e.g., wearing proper protective equipment, reducing exposure to harmful chemicals)?
3. What worked well with respect to workshop delivery?
4. What else can be done to support nail technicians in protecting their health at work?

These questions provided the foundation for the evaluation design, data collection tools and reporting framework.

1.2 EVALUATION DESIGN

The Nail Salon Workers Project operates in a unique and complex environment. Successful project implementation involves managing multiple organizational partnerships; building the capacity of peer educators, engaging a hard-to-reach population; navigating cultural norms and language barriers; recognizing underlying power dynamics, and building trust with salon owners.

Carrying out evaluation activities in this context requires creativity, flexibility and open lines of communication among project staff. As such, the evaluation design draws on principles of participatory action research, appreciative inquiry and strategic learning.

Participatory action research – Peer educators were involved in every step of the evaluation process, from design, to data collection, to data interpretation. This collaboration helped to ensure that the evaluation activities and findings reflect the realities of the salon environment. Peer educators will also be involved in communicating the results of the evaluation back to participating nail salons.

Appreciative inquiry – Evaluation tools were designed to foster reflective thinking about what aspects of the project are working well. This approach allows project staff and peers to build on strengths, possibilities and successes, while also supporting the development of trusting relationships among peers, salon technicians and owners.

Adaptive Learning –An adaptive learning approach was used to make adjustments to the project as new information and insights about the context emerged. This involved regular check-ins and debriefs between the project coordinators, the peer educators and the evaluator.

METHODS

A mixed methods approach, using both qualitative and quantitative data, was used to answer each of the evaluation questions.

Surveys – Participants were invited to complete two surveys - one at the beginning of the workshop and another one month after the workshop. The surveys assessed changes in protective behaviours before and after the workshops. Participation was completely voluntary and surveys were available in English, Vietnamese and Chinese. See Appendix A for copies of the surveys and Appendix B for the survey administration guides for Peer Educators.

Interviews: Interviews with salon technicians and owners were conducted by one of the project coordinators, with support from peer educators. Interview questions explored participants' perceptions of what aspects of the project supported behaviour change and what else could be done to support healthy salon environments. Peer Educators invited salons owners who had participated in all three workshops and showed a high level of engagement to participate in interviews. See Appendix C for a copy of the interview guide.

Reflection meetings: Regular check-in meetings between the project staff, peers and evaluator were scheduled to review preliminary survey findings, discuss successes and challenges, and make adjustments to the design and delivery of the workshops, including evaluation activities.

LIMITATIONS

Self-report surveys were used to assess changes in protective behaviours before and after the workshops. As with any self-reporting measurement tool, responses are vulnerable to social desirability bias. That is, respondents may answer as they think the peer educator or salon owner wants them to. Bias can be mitigated by encouraging participants to answer honestly, allowing for anonymous responses and triangulating with other evaluation methods. In addition to these strategies, a retrospective pre/post survey design was used at follow-up. A retrospective pre/post survey is administered at only one point in time and queries participants about their knowledge/behaviours before the workshop and after the workshop. A pre-survey (baseline) survey was also administered to help identify self-report bias in the retrospective survey.

Participants were invited to complete evaluation surveys for each of the three workshop modules. In order to preserve anonymity, participants were not asked to provide their name or any identifying information. As a result, multiple surveys were completed by the same participant (one for each workshop module). For the purpose of the analysis, each survey was counted as a unique respondent.

2. EVALUATION FINDINGS

2.1 PARTICIPATION

Sixty-five (65) peer-led workshops were delivered in 29 nail salons across the Greater Toronto Area. Eighteen (18) salons participated in more than one workshop. The following survey response rates were observed for each workshop module.

FIGURE 1: SURVEY RESPONSE RATES

Module	# of workshop participants	Pre- survey (baseline)	Post-survey (follow up)
Reproductive	70	61%	64%
Ergonomic	66	92%	53%
Respiratory	74	96%	58%

All five salons that were invited to participate in interviews agreed to the request. Interviews took place in the salons during work hours and in most cases feedback was provided by salon owners on behalf of staff.

2.2 TO WHAT EXTENT WERE THE WORKSHOPS DELIVERED AS PLANNED?

Overall, the project met all of the key commitments outlined in the project proposal. Adjustments were made to some aspects of workshop delivery and evaluation in response to emergent learnings about the realities of the salon context.

FIGURE 2: PROJECT COMMITMENTS AND RESULTS

Commitments	Results
Hire and train Peer Health Educators	Four peer educators were hired to carry out a portion of the project: two from within the Vietnamese community and two from within the Chinese community (Mandarin-speaking). Peer educators participated in 2-3 hours of general facilitation training, and 15-20 hours of issue-specific training. Peer educators worked with project staff to develop their own thirty-minute workshop for nail technicians.
Research and develop content for three pressing health issues (Ergonomics, Reproductive Health and Respiratory Health)	Project partners and external experts contributed to content development. Key materials were consolidated into three training modules (Ergonomics, Reproductive Health and Respiratory Health) used to train the peers, and to inform the development of an issue-specific resource (booklets or posters).
Develop issue-specific resources for nail technicians	The following new resources (booklets or posters) were created: – STRETCH: Preventing Stress and Pain While You Work (For Nail Salon Technicians) – Reducing Risks to Reproductive Health – A Resource for Nail Technicians – Reducing Risks to Respiratory Health – A Resource for Nail Technicians – Occupational Health and Safety in Nail Salons – Training and Workshop Guide
Deliver 60 workshops in nail salons across Toronto	65 peer-led workshops delivered in one of three languages (English, Vietnamese, Chinese): Reproductive module = 70 participants (22 workshops) Ergonomic module = 66 participants (23 workshops) Respiratory module = 74 participants (20 workshops)

	Peer-led workshops reached 29 salons across Toronto. Each participating salon received sample items (e.g., nitrile gloves, skin cream and educational materials), educational handouts and issue-specific resources relevant to the workshop modules. An honorarium was also provided to all workshop participants.
Conduct outreach to other Ontario cities where the work may be transferrable	In addition to a Provincial Roundtable held in March 2018 with community outreach workers from Guelph and Hamilton, meetings were held with community health centres in Ottawa and Kingston, settlement services in Guelph as well as with staff from Occupational Health Clinics for Ontario Workers in Ottawa and Hamilton. An overview of the Toronto project was outlined, resources were shared and the meetings explored similarities and differences with the nail salon communities in these respective cities.

As part of the project, the PQWCHC developed a training and workshop guide that documents each aspect of project implementation (e.g., content development, peer training, outreach process, evaluation, workshop content and resources, peer job posting etc.). The Occupational Health and Safety in Nail Salons Guide is available through the PQWCHC.

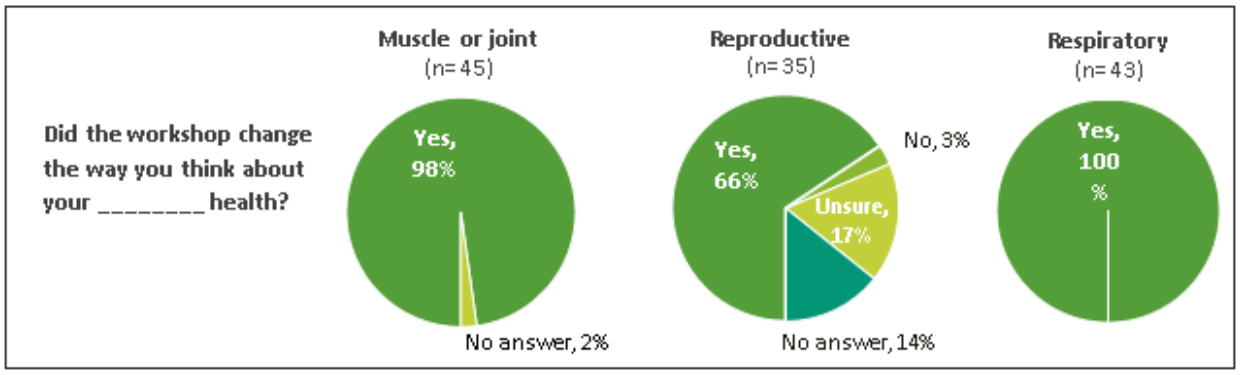
2.3 TO WHAT EXTENT DO THE WORKSHOPS INCREASE PROTECTIVE BEHAVIOURS AMONG NAIL TECHNICIANS?

Evaluation findings suggest that protective behaviours among nail technicians significantly increased from before to after the workshop. The biggest change occurred from the ergonomic workshops, with respect to stretching and shifting positions to alleviate muscle tension. Participants also reported that the workshops changed the way they thought about their health at work.

ATTITUDES/AWARENESS

Almost all of the survey respondents from the ergonomic and respiratory workshops indicated that the workshop changed the way they think about their health at work. Responses from the reproductive workshops show that participants were less certain about whether or not the workshops changed their thinking. This could be explained by the fact that the workshop content was multi-layered and more complex and did not necessarily apply to all participants (e.g., some participants noted that they were experiencing menopause, and male nail technicians had less interest in the topic).

FIGURE 3: PERCENT (%) OF RESPONDENTS WHO REPORTED THAT THE WORKSHOPS CHANGED THEIR THINKING



Examples of how the workshops changed participants' thinking included:

> *"I have a better attitude now. I used to think it was fine. I wasn't paying attention before."*
>
> *"Now I know that chemicals in nail salon affect the fetus (pregnancy)."*
>
> *"Tight muscles cause problems to tendon and ligaments. So I have to take care of my muscles."*
>
> *"Respiration is important to our health. We try to inhale good air which is needed for our physical being. Bad air can destroy, make us sick e.g., lung cancer."*

Almost all of the survey respondents from the ergonomic workshops indicated that they had become more aware of their posture (89%) and had taken steps to improve their posture at work (98%) because of the workshops. Some participants noted that the posture changes and/or stretching exercises helped to reduce muscle pain.

PROTECTIVE BEHAVIOURS

Looking across all data sources, findings suggest that protective behaviours increased after the workshops. The biggest change was observed for behaviours related to preventing muscle and joint pain (e.g., stretching between clients, shifting positions). This could be explained by the fact that these behaviour changes can be performed autonomously at the discretion of the nail technician. That is, they don't require new products, protective equipment or structural changes to the building/salon. In addition, doing stretches is not a potentially value-laden activity such as wearing a protective mask might be.

FIGURE 4: CHANGES IN THE FREQUENCY OF PROTECTIVE BEHAVIOURS BEFORE AND AFTER THE WORKSHOPS

Protective Behaviour	Direction of change (pre/post)	Effect size*	# of responses (n)
Perform stretching exercises between clients	⇧	Very large	45
Shift positions to release muscle tension when working with each client†	⇧	Very large	45
Use a towel or foam pad on the edge of the table to soften the impact on your hands, wrists, forearms and elbows	⇧	Very large	44
Use safety glasses to protect your eyes while filing nails	⇧	Very large	45
Change your clothes as soon as you get home†	⇧	Large	35
Apply hand cream after washing your hands	⇧	Large	35
Wear protective gloves when working with salon products†	⇧	Large	43
Wear a mask when working with salon products†	⇧	Large	78
Put trash a sealed container or bag†	⇧	Large	78

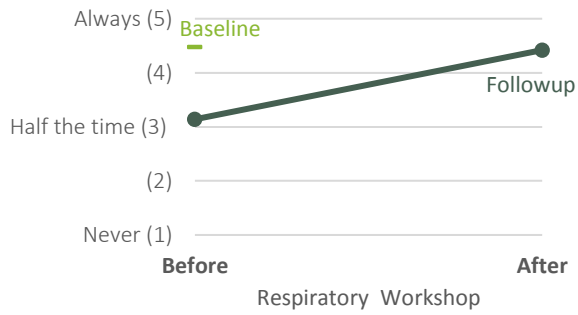
*Effect size tells us the strength of the relationship between variables in statistical data. In this case, it describes the strength of the correlation between workshop participation and the frequency of performing each protective behaviour. Actual effect size values are presented in Appendix D: Quantitative Data Analysis.

† Cases where the baseline measures were higher than behaviour estimates provided in retrospective pre-test.

As noted in the Limitations section of this report, a pre-survey was administered at the beginning of each workshop to establish a baseline and help identify responses that may have been influenced by self-report biases. In some cases, the baseline measures were higher than behaviour estimates provided in the retrospective pre-test.

This may be due to changes in understanding of what the protective behaviour should involve, or social desirability effects. For example, salons received the respiratory workshops last (i.e., many salons would have already participated in the reproductive and ergonomic workshops). Wearing gloves was reinforced in each workshop module. Even if the respondents were almost always wearing gloves prior to the respiratory workshop, they may have underestimated their pre-workshop behaviours in order to show the "desirable" change (increase in the behaviour) from before to after the workshop.

FIGURE 5: FREQUENCY OF USING GLOVES WHEN WORKING WITH SALON PRODUCTS BEFORE AND AFTER THE WORKSHOP



Stretching and posture:

When asked about the most important change that they made as a result of the workshops, many interview and survey participants talked about stretching and pain relief. Survey respondents noted that they were stretching more often, paying more attention to their posture and taking breaks to rest their muscles. During in-person interviews, salon owners noted that they observed staff making improvements to their posture at work (e.g., making adjustments to their chairs, sitting up straight). For some technicians, these changes resulted in reduced muscle pain and fatigue.

"We sit for so long, especially for fake nails. And customers don't know how to hold their hands, so we get sore arms…We do more massages [on each other] now. It's really good."

"My arm was sore from all the work, but now it feels better. Now that I'm doing the exercises."

Air quality:

Propping the door open, sealing garbage containers and going outside for fresh air were identified by technicians and owners as important changes that were made after the workshops. For example, one salon removed the garbage bins from the pedicure stations. Rather than collecting and storing the waste at the stations, the technicians use a sealed garbage bin at the back of the salon. Two salons owners noted that staff used to eat at their stations, and created a lunch room because of what they learned in the workshops.

At least one salon made significant changes to the air exchange system in the salon following the workshops. The owner noted that they installed four fans to bring fresh air in, two fans to extract air out and room fans to circulate the air within the salon.

"It costs more to heat with doing this, but it's ok. Safety first." – Salon owner

Personal protective equipment (PPE):

Some participants noted that they made changes to the type of PPE they used as a result of the workshops (e.g., switching from latex to nitrile gloves). Others reported increased consistency in the use of PPE (e.g., wearing masks more often). The use of eye drops and protective glasses were also noted as changes that helped to relieve red and itchy eyes after long shifts.

"We used masks before, only sometimes. Now we know to wear them all the time. We care more because we understand more."

"At the end of the day, I felt like something was stuck in my nose and made it hard to breathe when I go home. Now it's better."

2.4 WHAT WORKED WELL WITH RESPECT TO WORKSHOP DELIVERY?

A content analysis of interview data, open-ended survey data and notes from reflection meetings identified the following success factors with respect to workshop delivery.

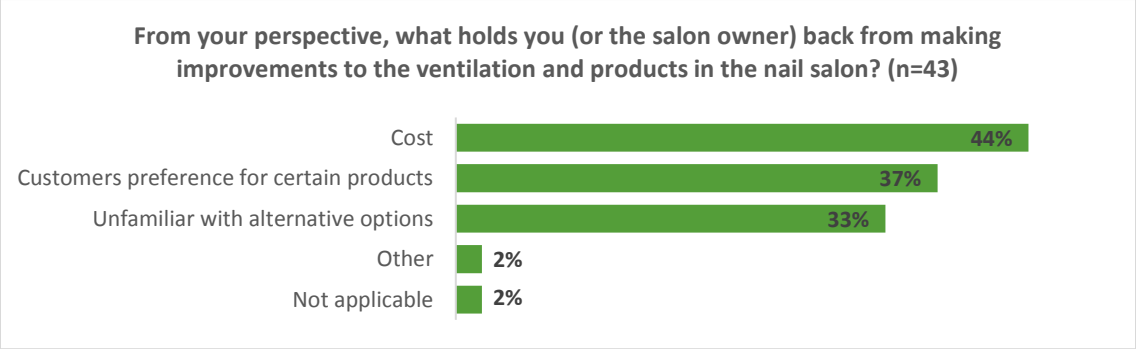
FIGURE 6: FACTORS THAT ENABLED EFFECTIVE WORKSHOP DELIVERY

Enablers	Details
Relationships with salon owners	Pre-existing relationships between peer educators and salon owners as well as referrals from participating salons facilitated the recruitment process. Many of the participating salons learned about the opportunity through personal connections to the peers or from other participating salons. Developing trust with salon owners was an important step in the recruitment process in order to avoid misunderstandings about the purpose of the workshops (i.e., voluntary health and safety training vs. public health inspection). *"Employees didn't understand. This had never happened before. They were scared and didn't want to talk. Then we started to understand – no fines, not the inspector."- Salon owner*
Language options	The peer educators offered training in the preferred language of the participants (i.e., Chinese (Mandarin) or Vietnamese). English was used a common language for workshops that included participants with other first languages. *"Learning from someone in Vietnamese is really important. [I] don't know enough English to learn and understand otherwise." – Nail technician*
Peer educators	The peer educators' knowledge of the industry and professional status (two peers were doctors in their home counties) were seen as strengths by salon owners that participated in interviews. *"Information coming from someone else and not 'boss's rules' made a big difference." – Salon owner* *"These ladies teach us everything. They understand the problems. They are very nice."- Salon technician*
Workshop content	Some salon owners expressed appreciation for the unique training opportunity, explaining that they have had to train all of their employees in-house with no other occupational health and safety training options. *"No one does this, no one has offered. I'm open here since 2001 and I have to train my own employees. No one in Canada has ever helped or talked to us this way". – Salon owner* Some participants noted that they liked the practical resources offered through the workshops (e.g., polish comparison chart). *"[The project] takes clinical information and makes it practical for the community." – Salon owner*
On-site training	One interview participant noted that having the training at the salon was important because she doesn't drive and has no time to attend training outside of work. Many technicians work up to ten hour days, six days a week.

3. WHAT ELSE CAN BE DONE TO SUPPORT NAIL TECHNICIANS IN PROTECTING THEIR HEALTH AT WORK?

Costs, customer preference and lack of alternative options were seen as barriers to making improvement to the ventilation and salon products among workshop participants. Strategies for overcoming these barriers, as identified by interview participants, included more training for salon technicians, public awareness and customer education, and equipment subsidy programs.

FIGURE 7: BARRIER TO HEALTH AND SAFETY IMPROVEMENTS WITHIN SALONS



More training and awareness

According to survey data, at least 25% of workshop participants had not thought about how working in a nail salon might affect their respiratory, reproductive or musculoskeletal health. Of those who *had* thought about their health, at least 30% indicated that they had not acted on their concerns. Not having time, not knowing how to deal with their concerns, and being unfamiliar with alternative options were noted as barriers. As noted in section 2.2, the workshops appear to influence the way participants view their health at work, while practical knowledge and resources provide participants with tools to address health concerns. Salon owners and technicians who participated in interviews noted that the workshops help remind them to care for their health at work and expressed openness to continuous improvement within the salons.

> *"All we do is work, work, work. Good to be reminded of the ways to keep us healthy."*
>
> *"Not everyone can work in an office, so we need to make this a good job too. We need to be able to protect body with good position and against chemicals."*
>
> *"We are always learning and have to protect ourselves. I learned in school but forget sometimes. Good to have these workshops to remind us."*

Public awareness

The majority of survey respondents felt that improvements could be made to the safety of the nail products (84%, n=43). When asked what holds them back from making changes to the products, 37% of respondents said "customer preference for certain products". Raising public awareness and educating customers of the potential health risks associated with certain products could be explored as complimentary strategies in addition to technician education.

One salon owner felt that salons need to do a better job of working together to promote healthier environments for clients and employees, *"If we work together we could raise prices and afford better products. All salons should*

have to make the positive changes. If we work together, there wouldn't be the undercutting. If I raise my prices, the customer will just go next door. I use better products but I can't move the prices up. We have to work together. If I try to tell [the customer] why, they think I'm just selling. We need to educate clients… get more salons involved, and work together. Learning always makes better."

Incentive Programs

Forty-four percent (44%, n=43) of survey respondents indicated that cost was a prohibitive factor in making changes to ventilation systems and salon products. During in-person interviews, some salon owners expressed interest in purchasing source capture machines and indicated that a government subsidy program would help overcome the cost barriers.

> *"I hope it will be like California, where the government helps subsidize salons that are trying to be healthy. I could pay a few hundred dollars for it, but not $1200".*

4. CONSIDERATIONS FOR MOVING FORWARD

While self-report data presents limitations in terms of interpreting the survey findings, reasonable conclusions can be drawn by looking across all three data sources. The findings presented in this report suggest that the workshops were successful in changing attitudes and increasing protective behaviours among nail technicians.

Should the project staff and/or stakeholders wish to explore options for continuing or scaling up this work, the following reflection questions may help guide decision-making:

1. Who are the target audience(s) and what strategies can be used to reach each group?
2. What resources would be required to meet the demand (e.g., peer educators, translation services, and staff time)?
3. What culturally sensitive evaluation approaches could be used to monitor outcomes and improve processes (i.e., taking into account cultural norms, power dynamics, language barriers and literacy levels)?
4. How can we promote fidelity to the peer-led model as interventions are replicated or scaled up within the nail salon industry or other relevant industries?
5. In what ways can stakeholders continue to advocate for system level change (e.g., incentive programs, licensing/regulation)?

Appendix A: Workshop Surveys

Workshop: Protecting your reproductive health

Pre-survey

Date _____

We want to know whether or not these workshops help nail technicians make positive changes at work. This survey asks questions about your current workplace practices. In one month, we will ask you to complete this survey again to see if there were any changes. There are no right or wrong answers, so **please answer as honestly as possible.** ***Your answers will be kept private and confidential.*** These surveys will help us make improvements to the workshops.

1. **Please tell us about your current position at the nail salon. Are you…**
   - ☐ An owner of the nail salon?
   - ☐ A nail technician?
   - ☐ Both?
   - ☐ Other _____

2. This question asks you about your workplace practices.

   Thinking about <u>the last 2 weeks</u> of work…

How often did you…	*(Circle the answer that applies to you)*				
Wear protective gloves when working with salon products?	1 Never	2	3 About half the time	4	5 Always
Wear a mask when working with salon products?	1 Never	2	3 About half the time	4	5 Always
Change your clothes as soon as you get home?	1 Never	2	3 About half the time	4	5 Always
Apply hand cream after washing your hands?	1 Never	2	3 About half the time	4	5 Always

3. **Have you ever thought about how working in the nail salon might affect your reproductive health?**
   (Check the answer that applies)

   - ☐ No, it's not really a concern for me
   - ☐ No, but I'm interested in learning more
   - ☐ Yes, but I have not acted on my concerns
   - ☐ Yes, and I've taken action to reduce risks
   - ☐ I don't know

   Please explain…

Parkdale Queen West

Workshop: Protecting your reproductive health

Follow up survey

Date _____

We want to know if these workshops help nail technicians make positive changes at work. This survey asks questions about your workplace practices before and after workshop. There are no right or wrong answers, so **please answer as honestly as possible. Your answers will be kept private and confidential.** These surveys will help us make improvements to the workshops.

1. **Please tell us about your current position at the nail salon. Are you:**
   - ☐ An owner of the nail salon?
   - ☐ A nail technician?
   - ☐ Both?
   - ☐ Other _____

2. **This question asks you about your workplace practices before and after the workshop.**

*Thinking about the 2 weeks **BEFORE** the workshop, circle the answer that applies to you*	**How often did you…**	*Thinking about **the last 2 weeks** of work, circle the answer that applies to you*
1 Never 2 3 About half the time 4 5 Always	**Wear protective gloves when working with salon products?**	1 Never 2 3 About half the time 4 5 Always
1 Never 2 3 About half the time 4 5 Always	**Wear a mask when working with salon products?**	1 Never 2 3 About half the time 4 5 Always
1 Never 2 3 About half the time 4 5 Always	**Change your clothes as soon as you get home?**	1 Never 2 3 About half the time 4 5 Always
1 Never 2 3 About half the time 4 5 Always	**Apply hand cream after washing your hands?**	1 Never 2 3 About half the time 4 5 Always

3. **What's the most important thing you learned from the workshop?**

Please flip over →

4. **What's the most important change you've made because of participating in the workshop?**

5. **Did the workshop change the way you think about your reproductive health?** ☐ **Yes** ☐ **No** ☐ **Not sure**
   Please explain:

Appendix B: Survey Administration Guides

Guide for Peer Educators

Pre-Survey Administration

It is important that peer educators administer the workshop surveys in a consistent way across salons in order to protect the integrity of the data. If surveys are administered differently by each educator, it will make it hard to draw strong conclusions from the survey findings. This guide provides step-by-step instructions for administering the pre-workshop surveys.

- The pre-workshop survey is administered to workshop participants immediately before the workshop.

Step 1: Explain the purpose of the survey to the nail technicians.

Here are some helpful talking points:

- The Queen West Community Health Centre wants to know how effective these workshops are.
- This survey will help the Health Centre understand the workplace practices of nail technicians before they take the workshop. It will take about 5 minutes to complete.
- In one month, I will return to the salon to ask you to complete a similar survey that asks about your workplace practices after the workshop.
- The project staff at the Health Centre will use the survey responses to see if there is a change in workplace practices as a result of the workshop.
- The Health Centre will use this information to make the workshops better.

Step 2: Explain that the surveys are voluntary, confidential and anonymous.

Here are some helpful talking points:

- Completing this survey is voluntary, but we hope that you will complete it so that we can learn about your experience and make the workshops better.
- Please answers as honestly as possible. You do not need to put your name on the survey.
- Only the project team at the Health Centre will see the answers.
- When you are finished with the survey please place it in this envelope. *Avoid asking participants to hand the survey back to you. Instead place the envelope on a nearby table or other convenient location.*

Step 3: Distribute the surveys to nail technicians.

Allow approximately 5 minutes for nail technicians to complete the survey.

Step 4: Place envelope containing completed surveys in your bag.

Thank the nail technicians for completing the survey and place the surveys in a secure location (e.g., your purse or brief case)

Guide for Peer Educators

Follow-up Survey Administration

It is important that peer educators administer the workshop surveys in a consistent way across salons in order to protect the integrity of the data. If surveys are administered differently by each educator, it will make it hard to draw strong conclusions from the survey findings. This guide provides step-by-step instructions for administering the follow up surveys.

- The follow up survey is administered to workshop participants approximately one month after the workshop.

Step 1: Remind the nail technicians about the purpose of the survey.

Here are some helpful talking points:

- The Queen West Community Health Centre wants to know how effective these workshops are.
- This survey will help the Health Centre understand the workplace practices of nail technicians one month after the workshop. It will take about 5 minutes to complete.
- The project staff at the Health Centre will use the survey responses to see if there is a change in workplace practices as a result of the workshop.
- The Health Centre will use this information to make the workshops better.

Step 2: Remind the nail technicians that the surveys are voluntary, confidential and anonymous.

Here are some helpful talking points:

- Completing this survey is voluntary, but we hope that you will complete it so that we can learn about your experience and make the workshops better.
- Please answers as honestly as possible. You do not need to put your name on the survey.
- Only the project team at the Health Centre will see the answers.
- When you are finished with the survey please place it in this envelope. *Avoid asking participants to hand the survey back to you. Instead place the envelope on a nearby table or other convenient location.*

Step 3: Distribute the surveys to nail technicians.

Allow approximately 5 minutes for nail technicians to complete the survey.

Step 4: Place envelope containing completed surveys in your bag.

Thank the nail technicians for completing the survey and place the surveys in a secure location (e.g., your purse or brief case).

Appendix C: Interview Guide

Interview Guide for Salons

Date:

Name of salon:

Peer educators:

Number of nail salon workers participating in project/participating in case study: /

Number of nail salon owners participating in project/participating in case study: /

Evaluation consent form was reviewed with and provided to each participant (yes/no):

If no, please explain:

Activity #1: Timeline

Record any relevant information here that is not captured on the visual timeline (e.g., direct quotes).

Activity #2: Mapping Exercise

Record any relevant information here that is not captured on 11x17 paper (e.g., direct quotes, description of photos taken, workers' reflections on their health at work).

What is the most important change? Why?

Wrap up:

** Peer educator to record bullet points on piece of paper AND/OR Cate to take notes.*

Is there anything else you'd like to share about your experience with project?

What did you like most about the project?

What did you not like?

How could the project be improved?

What else would you like to see happen?

Facilitators notes (to be complete directly after visit)

	What seemed to work well?	What challenges or barriers did you observe?
Logistics (e.g., drawings/visuals, taking photos, getting consent, time availability)		
Creating safe and comfortable environment for salon workers to share their experience (consent process, dynamic with owners present; with project lead; with peer educators; level of participant engagement)		
Language and translation		
Facilitation guide and research questions (e.g., flow, relevance of questions, clarity of activities)		
Other		

Appendix D: Quantitative Analysis Report

Healthy Nail Technicians Project: Quantitative Data Analysis

Overview of Data Analysis Approach

Data from each health workshop (ergonomic, reproductive, respiratory) were analyzed separately, and aggregate change was examined for common questions across workshops.

Analysis methods involved:

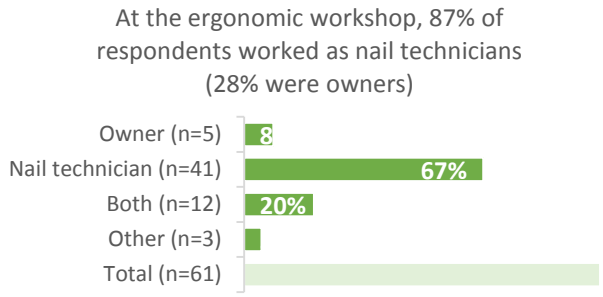
1. Descriptive analysis of all items (response frequencies, means and standard deviations for scales)
2. Paired sample t-test comparing harm reduction behaviours from before to after the workshop (based on retrospective self-report at follow-up measurement)
3. Independent sample t-test comparing self-reported harm reduction behaviours from the program start (baseline) to retrospective baseline (measured at follow-up session)
4. Examination of statistical significance and effect size (Cohen's d) for all change data
5. Visualization of frequency and change data

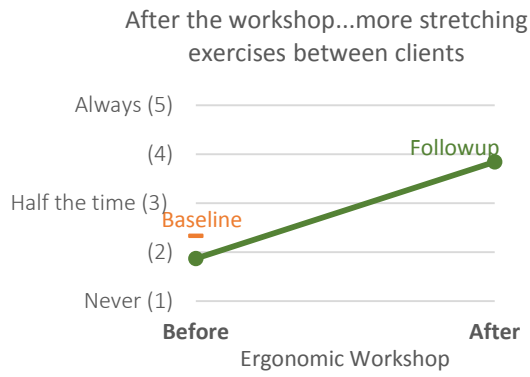
Parametric testing assumptions (normality, homogeneity of variance) were examined for all t-tests, and adjustments were performed as required.

Ergonomic workshop results

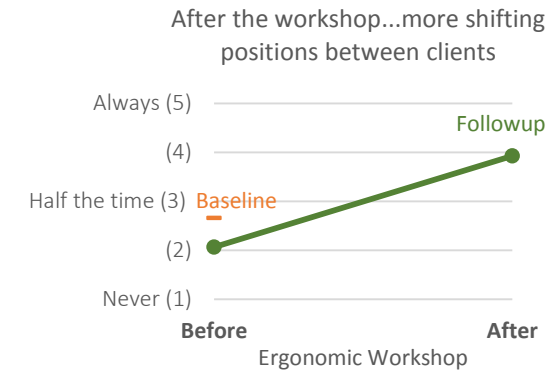
Descriptive statistics and visualization of survey data

Data were collected from 61 participants at the baseline of the ergonomic workshop and 45 at the follow-up measurement session. Response frequencies are presented below, along with means and standard deviations for each item.

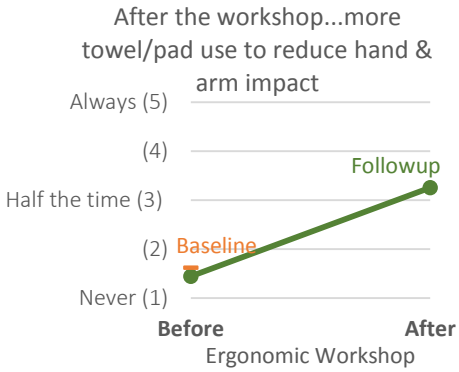




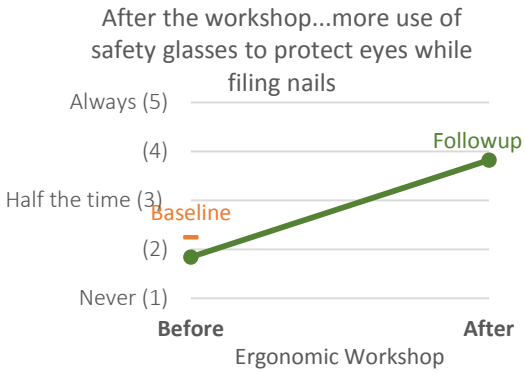
Response (behaviour frequency)	Stretching (true pre)	Stretching (retro pre)	Stretching (post)
Never (1)	24	21	0
2	15	14	6
Half the time (3)	11	7	14
4	0	1	6
Always (5)	11	2	19
n	61	45	45
M	2.3	1.9	3.8
SD	1.5	1.1	1.1



Response (behaviour frequency)	Shift positions (true pre)	Shift positions (retro pre)	Shift positions (post)
Never (1)	16	23	2
2	14	6	3
Half the time (3)	18	10	10
4	1	2	11
Always (5)	12	4	19
n	61	45	45
M	2.7	2.1	3.9
SD	1.4	1.3	1.2

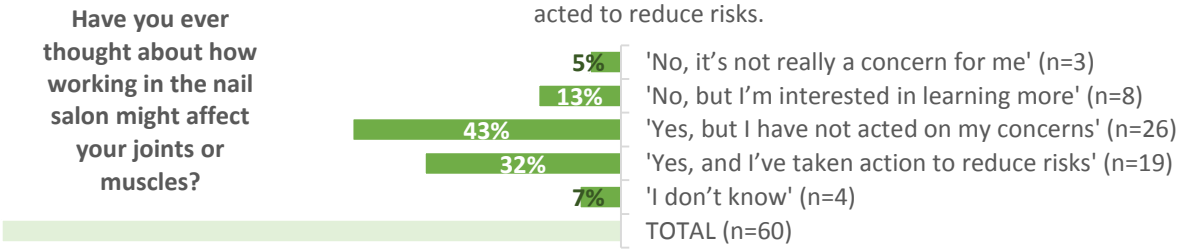


Response (behaviour frequency)	Towel (true pre)	Towel (retro pre)	Towel (post)
Never (1)	48	35	5
2	2	5	11
Half the time (3)	3	2	10
4	2	1	4
Always (5)	6	2	14
n	61	45	44
M	1.6	1.4	3.3
SD	1.3	1.0	1.4



Response (behaviour frequency)	Safety glasses (true pre)	Safety glasses (retro pre)	Safety glasses (post)
Never (1)	34	30	1
2	6	5	6
Half the time (3)	7	3	13
4	0	1	5
Always (5)	14	6	20
n	61	45	45
M	2.3	1.8	3.8
SD	1.7	1.4	1.2

Before the ergonomic workshop, 75% of participants reported that they had thought about how nail salon work might affect their joint or muscle health, but only 32% had acted to reduce risks.



98% of participants reported the ergonomic workshop changed they way they think about muscle or joint health (n=45).

Inferential statistics show ergonomic risk reduction strategies increased after the workshop

The paired samples t-test showed that ergonomic risk reduction strategies significantly increased from before to after the workshop.

- For stretching between clients, this increase in protective behaviours after the workshop occurred with a large effect size, $t(44)=11.70, p<.001, d=1.8$)
- For shifting positions between clients, this occurred with a large effect size, $t(44)=9.71, p<.001, d=1.4$)
- For padding arms and hands, this occurred with a large effect size, $t(43)=8.79, p<.001, d=1.3$)
- For wearing eye protection, this occurred with a large effect size, $t(44)=8.94, p<.001, d=1.3$)

As shown above, there was a visual trend that client reports at baseline (before the ergonomic workshop) were higher than retrospective pre-test values. This may be due to a change in understanding of what stretching/shifting position should involve, or due to social desirability effects. Independent t-tests[1] did not find evidence that this difference was statistically significant, except for "shifting position".

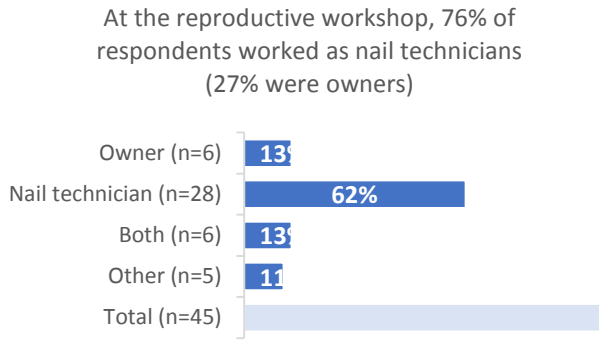
- For stretching between clients, there was a marginally significant difference with a moderate effect size, $t(104)=1.89, p=.06$, d=*.4*)
- For shifting position between clients, there was a significant difference with a moderate effect size, $t(104)=2.18, p=.03$, d=*.5*)
- For padding arms and hands, there was a non-significant difference with a small effect size, $t(104)=0.76, p=.45$, d=*.2*)
- For wearing safety glasses, there was a non-significant difference with a small effect size, $t(104)=1.31, p=.19$, d=*.3*)

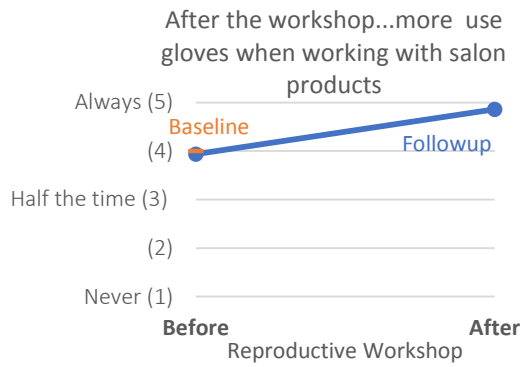
[1] The adjusted t-test for unequal variances (reduced degrees of freedom), was used for the stretching measure.

Reproductive workshop results

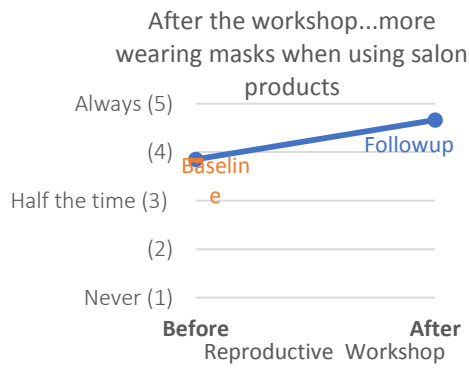
Descriptive statistics and visualization

Data were collected from 43 participants at the baseline of the ergonomic workshop and 35 at the follow-up measurement session. Response frequencies are presented below, along with means and standard deviations for each item.

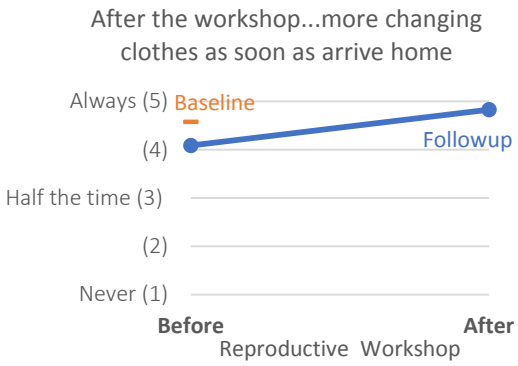




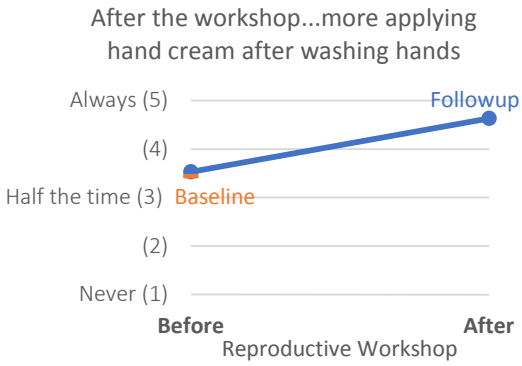
Response (behaviour frequency)	Wear gloves (true pre)	Wear gloves (retro pre)	Wear gloves (post)
Never (1)	0	1	0
2	0	1	0
Half the time (3)	19	13	1
4	5	4	3
Always (5)	19	16	31
n	43	35	35
M	4.0	3.9	4.9
SD	1.0	1.1	0.4



Response (behaviour frequency)	Wear mask (true pre)	Wear mask (retro pre)	Wear mask (post)
Never (1)	2	0	0
2	0	2	1
Half the time (3)	20	15	2
4	4	3	5
Always (5)	19	14	27
n	45	34	35
M	3.8	3.9	4.7
SD	1.1	1.0	0.7



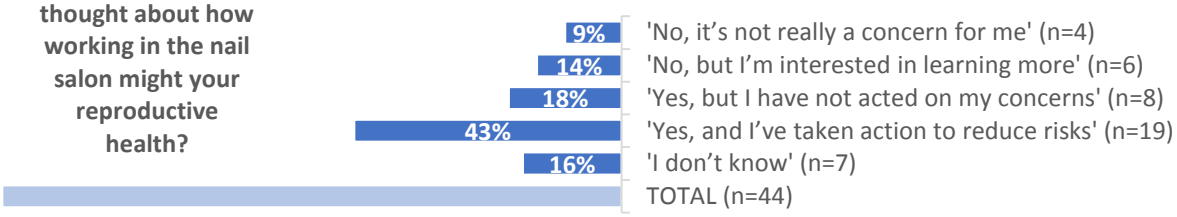
Response (behaviour frequency)	Change clothes (true pre)	Change clothes (retro pre)	Change clothes (post)
Never (1)	1	2	0
2	1	1	0
Half the time (3)	6	7	1
4	0	6	4
Always (5)	37	18	30
n	45	34	35
M	4.6	4.1	4.8
SD	1.0	1.2	0.4



Response (behaviour frequency)	Apply hand cream (true pre)	Apply hand cream (retro pre)	Apply hand cream (post)
Never (1)	3	3	1
2	4	1	1
Half the time (3)	20	14	1
4	6	7	4
Always (5)	12	9	28
n	45	34	35
M	3.4	3.5	4.6
SD	1.2	1.2	0.9

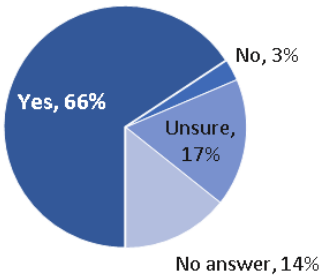
Before the reproductive workshop, 51% of participants reported that they had thought about how nail salon work might affect their reproductive health, and 43% had acted to reduce risks.

Have you ever thought about how working in the nail salon might your reproductive health?



66% of participants reported the reproductive workshop changed they way they think about their reprtoductive health n=35

Did the workshop change the way you think about your reproductive health?



Inferential statistics show reproductive risk reduction strategies increased after the workshop

The paired samples t-test showed that reproductive risk reduction strategies significantly increased from before to after the workshop.

- Glove use increased with a large effect size, $t(34)=5.20, p<.001, d=0.9$)
- Mask use increased with a large effect size, $t(33)=5.48, p<.001, d=0.9$)
- Changing clothes as soon as arriving home increased with a large effect size, $t(33)=4.03, p<.001, d=0.7$
- Applying hand cream after gloves increased with a large effect size, $t(33)=5.86$,p<.001,$d=1.0$

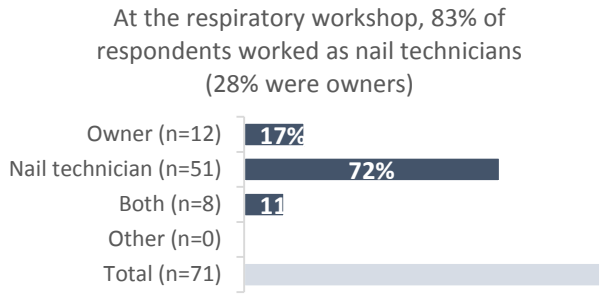
There was no general trend that client reports at baseline (before the ergonomic workshop) were different than retrospective pre-test values. Independent t-tests did not find evidence of a statistically significant difference, except for "changing clothes right away at home".

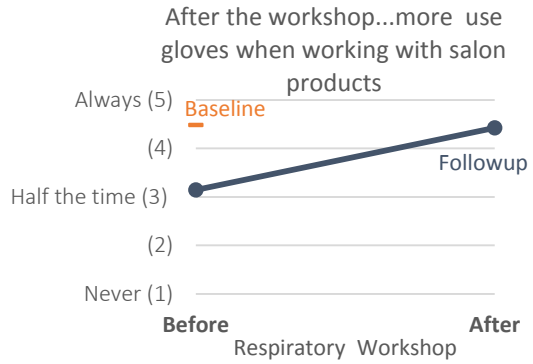
- For glove use, there was a non-significant difference with a small effect size, $t(76)=0.24, p=.81, d=.1$
- For mask use, there was a non-significant difference with a very small effect size, $t(77)=0.03, p=.97, d=.0$
- For changing clothes, there was a marginally significant difference with a moderate effect size, $t(77)=2.02, p=.05, d=.5$
- For applying hand cream, there was a non-significant difference with a small effect size, $t(77)=0.32, p=.75, d=.1$)

Respiratory workshop results

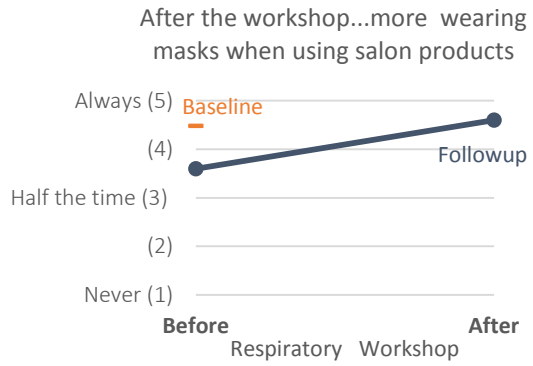
Descriptive statistics and visualization

Data were collected from 43 participants at the baseline of the ergonomic workshop and 35 at the follow-up measurement session. Response frequencies are presented below, along with means and standard deviations for each item.

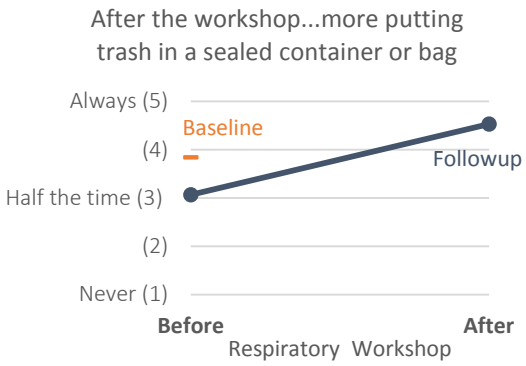




Response (behaviour frequency)	Wear gloves (true pre)	Wear gloves (retro pre)	Wear gloves (post)
Never (1)	1	6	1
2	1	5	0
Half the time (3)	10	18	6
4	10	5	9
Always (5)	49	9	27
n	71	43	43
M	4.5	3.1	4.4
SD	0.9	1.3	0.9

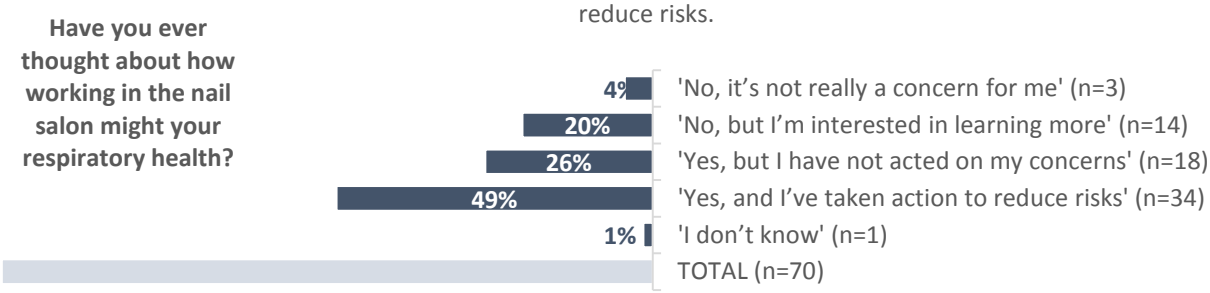


Response (behaviour frequency)	Wear mask (true pre)	Wear mask (retro pre)	Wear mask (post)
Never (1)	1	6	1
2	1	4	0
Half the time (3)	12	8	2
4	6	7	9
Always (5)	51	17	31
n	71	42	43
M	4.5	3.6	4.6
SD	0.9	1.5	0.8

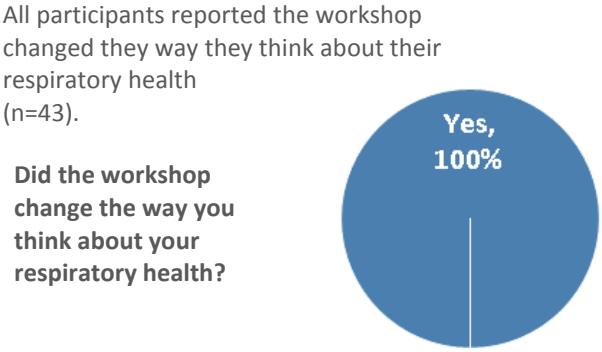


Response (behaviour frequency)	Trash sealed (true pre)	Trash sealed (retro pre)	Trash sealed (post)
Never (1)	8	7	0
2	9	9	0
Half the time (3)	10	12	7
4	2	4	6
Always (5)	41	11	30
n	70	43	43
M	3.8	3.1	4.5
SD	1.5	1.4	0.8

Before the respiratory workshop, 74% of participants reported that they had thought about how nail salon work might affect their reproductive health, and 49% had acted to reduce risks.



All participants reported the workshop changed they way they think about their respiratory health (n=43).



Inferential statistics show respiratory risk reduction strategies increased after the workshop

The paired samples t-test showed that respiratory risk reduction strategies significantly increased from before to after the workshop.

- Glove use increased with a large effect size, $t(42)=7.35, p<.001, d=1.1$)
- Mask use increased with a large effect size, $t(41)=5.03, p<.001, d=0.8$)
- Placing trash in a sealed bag increased with a large effect size, $t(42)=7.20, p<.001, d=1.1$)

As shown above, there was a marked visual trend that baseline measures (before the workshop) were higher than behaviour estimates provided at the retrospective pre-test during the post-workshop follow-up. This may be due to changes in understanding of what risk reduction should involve, or social desirability effects. Independent t-tests[2] found evidence that this difference was statistically significant for gloves, mask, and sealed garbage. Of interest, these differences from baseline to retrospective pre-test did not occur for similar questions on the reproductive workshop.

- For glove use, there was a significant difference with a large effect size, $t(67)=6.02, p<.001, d=1.3$)
- For mask use, there was a significant difference with a large effect size, $t(61)=3.52, p=.001, d=0.8$)
- For sealing trash, there was a significant difference with a moderate effect size, $t(111)=2.70, p=.008, d=.5$

Overall gloves and mask use

Descriptive statistics and visualization

Merging data across the respiratory and reproductive workshops, the overall impact of the workshops of mask and glove use was examined. Response frequencies are presented below, along with means and standard deviations for each item.

Response (behaviour frequency)	Wear gloves (true pre)	Wear gloves (retro pre)	Wear gloves (post)
Never (1)	1	7	1
2	1	6	0
Half the time (3)	29	31	7
4	15	9	12
Always (5)	68	25	58
n	114	78	78
M	4.3	3.5	4.6
SD	0.9	1.2	0.8

Response (behaviour frequency)	Wear mask (true pre)	Wear mask (retro pre)	Wear mask (post)
Never (1)	3	6	1
2	1	6	1
Half the time (3)	32	23	4
4	10	10	14
Always (5)	70	31	58
n	116	76	78
M	4.2	3.7	4.6
SD	1.1	1.3	0.8

[2] The adjusted t-test for unequal variances (reduced degrees of freedom) was used for the gloves and mask measure.

Inferential statistics show glove and mask use increased overall

The paired samples t-test showed that glove and mask use significantly increased from before to after the workshops.

- For wearing gloves, this occurred with a large effect size, $t(77)=8.92, p<.001, d=.1$)
- For wearing masks, this occurred with a large effect size, $t(75)=7.13, p<.001, d=.8$)

Independent t-tests showed that the self-report of glove may be influenced by recall or social desirability effects. Using the adjusted t-test for unequal variances (reduced degrees of freedom), the retrospective pre-test was significantly lower than the baseline value for glove use and mask wearing.

- For wearing gloves, this occurred with a large effect size, $t(133)=4.74, p<.001$, d=.8
- For wearing masks, this occurred with a moderate effect size, $t(137)=2.94, p=.004$, d=.5

Examination by workshop shows the difference in baseline and retrospective estimates in glove and mask use occurred for reports from the respiratory but not reproductive workshop participants.