

Sandy Phan

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Photo Cred: GreenToes, "How to Choose a Nail Salon..."

Toluene, Cancer, and Sparkly Gel Nails: The Pressing Dangers That Undergo in Nail Salons

California houses the largest nail salon sector in the United States, representing a majority of Vietnamese immigrants who have made a name for themselves in a labor inducing business. With this fact, many nail salons are without adequate ventilation and safety precautions that have led to significant respiratory, skin, eye, and nose irritation as a result of toluene in nail hardener, micro plastics and particulates in acrylic dust, and poor ventilation that goes unnoticed

to the naked eye. In this study, I surveyed six nail salons in my area in order to bring awareness to the prominent health risks that nail salon workers may suffer from their profession. To assess the implications of how said conditions may impact employee health, a survey was made questioning the quality of the salon's ventilation, the prevalence of face masks, the presence of strong scents, along with rating the intensity of the following symptoms: headaches, nausea, eye or nose irritation, chest tightness, and dizziness. To prevent the results or symptoms being affected by external factors such as lack of sleep, insufficient meals or intense stress, workers were questioned about these existing health backgrounds beforehand, and were asked for their symptoms apart from these pre-existing conditions. Additionally, salons were chosen at random and regardless of their known ventilation systems state.

| % Symptoms in Employees (of total employees) | | | | | | |
|--|----------|--------|-----------------|-----------------|---------------|-------------------------|
| Salon # | Headache | Nausea | Eye/Nose Irrit. | Chest tightness | Dizziness | Ventilation Update Year |
| 1 (6 employees) | 66% | 33% | 83% | None | 66% | 2020 |
| 2 (7 employees) | 57% | 14% | All Employees | 28% | 71% | 2021 |
| 3 (4 employees) | 75% | None | All Employees | 25% | All Employees | 2015 |
| 4 (6 employees) | 66% | 50% | 83% | 16% | 66% | 2018 |

As the table disregards pre-existing conditions that employees may have, the discoveries made from surveying comes to the correlation between ventilation quality and health effects. It is shown that nail salons with older ventilation systems are most prone to nose and eye irritation and symptoms of dizziness. Although this table represents a loose representation of genuine

medical concern and studies, it is evident that nail salon employees may be at health risks to the presence of nail dust or products in polishes and acetones such as toluene and ethyl acetate. Furthermore, a factor not mentioned in the survey, and this study, was the risk of skin cancer from UVA exposure of gel manicures. The Harvard Health Publishing article, “Do Gel Manicures Increase Cancer Risk?”, states that the UVA exposure in gel manicures (every two weeks) wouldn’t serve as an actual risk of skin cancer. So, why is this even a discussable issue? Although a customer’s infrequent, usually bi-weekly visit to a nail salon does not put them at risk of skin cancer, there are still unknown risks for employees that tend to test designs and gel manicures on themselves almost on a daily basis, possibly multiple times a day. In conjunction with the apparent symptoms of headaches, dizziness, eye/nose irritation, dizziness and potential dangers of skin cancer from UVA radiation, this urges more awareness and protocol for nail salons to have healthier working environments not only provided by themselves, but also landlords or protective laws.

Moving Forward

Although there is great difficulty in being able to set genuine laws or safety conditions that nail salons should follow, outside of the existing ones, there are tangible and accessible solutions to the plethora of health risks that salon employees face. For one, nail salons with metal trash cans as opposed to plastic ones can prevent eye and nose irritation as they hold polish and acetone smells better, creating a more enjoyable environment to work in while also being a more cost effective solution. Additionally, masks like N-95 masks and gloves are preventive of further inhalation or absorption of harmful chemicals, some being dibutyl, phthalate, formaldehyde, and toluene, most of which have been outlawed but still present in older products. Lastly, albeit its increased effort and cost, updated regulations in ventilation could have drastic changes to a nail

salon and worker's health. Given the multitude of American nail salons, especially in California, these topics carry more severity with each salon. And from a cultural standpoint of the common trend of Asian immigrants working at these salons, it is especially crucial to investigate the risks they face in order to make a living, pointing out issues and possible affordable solutions so that they can continue to provide.

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