PREVALENCE OF DIFFUSE PARENCHYMAL LUNG DISEASE PATTERNS ON CHEST X-RAY AND REPORTED RESPIRATORY SYMPTOMS AMONG SALON HAIRDRESSERS IN THE NATIONAL CAPITAL REGION: AN ANALYTICAL CROSS-SECTIONAL STUDY

RWD169

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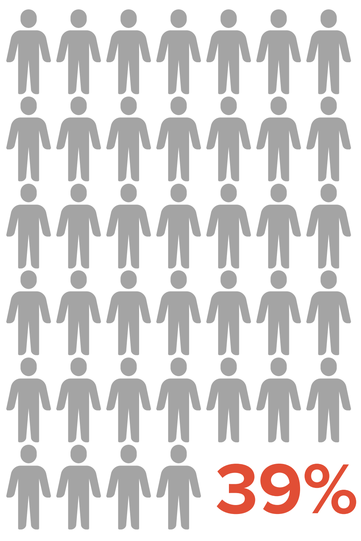
INTRODUCTION

Exposure to chemical agents in salon products, such as ammonia and formaldehyde, poses significant respiratory health risks for hairdressers. This study aimed to assess the prevalence of Diffuse Parenchymal Lung Disease Patterns (DPLD) observed in chest X-rays of hairdressers in the National Capital Region and to document their reported respiratory symptoms.

METHODOLOGY

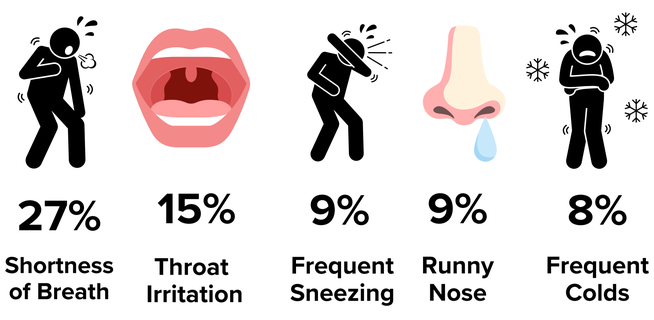
1. Analytical Cross-sectional
2. 100 hairdressers >18 y/o, Working in NCR
   Working 4 days per week, 7 hours per day, at least 1 year in same salon
3. Plain Chest X-ray, PA position
4. Self-administered Questionnaire:
   Demographic Profile, Working Condition, Health History and Respiratory Symptoms
5. Descriptive analysis, Relative Risk, Chi-square Test, Logistic Regression

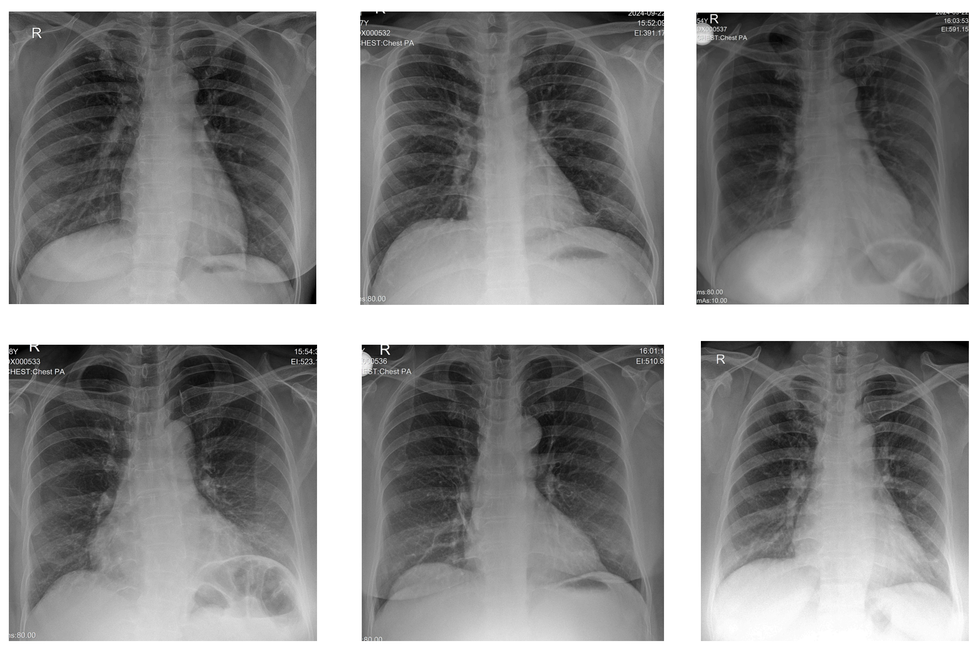
RESULTS



SPECIFIC DPLD PATTERNS SEEN:
69.23% Fine Reticular Opacities
25.64% Coarse Reticular Opacities

REPORTED RESPIRATORY SYMPTOMS





>5 YEARS EMPLOYMENT

	With DPLD	Without DPLD	RR	p-value
Yes	32	43	1.524	0.1929
No	7	18	(0.8286 to 3.116)	

>5 HOURS EXPOSURE TO SALON VAPORS

	With DPLD	Without DPLD	RR	p-value
Yes	30	44	1.1712	0.5941
No	9	17	(0.6454 to 2.125)	

>1 HR EXPOSURE TO HAIR IRON STEAM

	With DPLD	Without DPLD	RR	p-value
Yes	21	18	1.723	0.0333
No	15	33	(1.043 to 2.895)	

RESPIRATORY SYMPTOMS

	With DPLD	Without DPLD	RR	p-value
Yes	19	20	1.486	0.111
No	20	41	(0.9118 to 2.399)	

USE OF PPE

	With DPLD	Without DPLD	RR	p-value
No	5	0	2.794	0.0041
Yes	34	61	(1.521 to 3.721)	

LOGISTIC REGRESSION

	OR	95% CI	p-value
> 5 Years of Employment	1.6	-0.5746 to 1.5203	0.3762
>5 Hrs Exposure to Salon Vapors	0.93	-1.1244 to 0.9714	0.8862
>1hr Exposure to Hair Iron Steam	1.21	-0.7291 to 1.1143	0.6821
Positive Respiratory Symptoms	5.19	0.3122 to 2.9818	0.0156

DISCUSSION

The findings align with existing research, suggesting that hairdressing, along with other occupational exposures, may increase the risk of idiopathic pulmonary fibrosis—one of the most common causes of reticular opacity on chest X-rays. This risk is primarily attributed to the inhalation of inorganic gases commonly encountered in the profession.

Additionally, positive associations of DPLD with >5 years of employment, >1 hour exposure to hair iron steam, >5 hours exposure to chemical use, not using personal protective equipment and already exhibiting respiratory symptoms are not yet well established with existing literature, therefore it is suggested that future longitudinal studies may also investigate these positive associations to strengthen the premise.

CONCLUSION

The findings of this study underscore the potential for structural lung damage and respiratory symptoms among hairdressers, highlighting an urgent need for enhanced workplace safety protocols, including the consistent use of PPE and routine medical screenings to mitigate occupational health risks.

RECOMMENDATIONS

Training and Awareness Programs:
Conduct regular training sessions to educate employees about the risks associated with their work environment, particularly regarding the inhalation of steam during hair ironing procedure and other potentially harmful tools.

Implementation of PPE:
Employers should enforce the mandatory use of personal protective equipment to mitigate the risk of respiratory symptoms and associated lung diseases.

Monitoring Exposure Duration:
Organizations should monitor employee exposure times and consider implementing policies to limit daily exposure to hazardous conditions, particularly for those exceeding five hours.

Health Surveillance:
Regular health screenings for employees exhibiting respiratory symptoms to facilitate early detection and intervention for diffuse parenchymal lung disease.

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