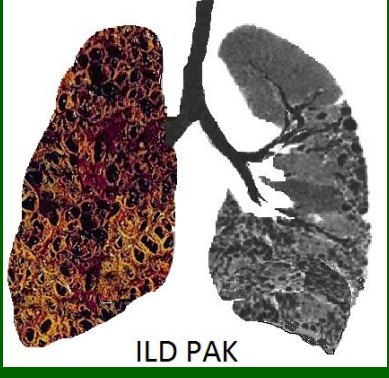


Profile of Interstitial Lung Diseases in Pakistan, Karachi Pulmonology Clinics Registry Data: Jan 2012 – Aug 2013



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Purpose

The interstitial lung diseases (ILDs) are a heterogeneous group of diffuse lung parenchymal disorders that comprise of a large number of entities but mostly a dozen of these are frequently confronted by pulmonary physicians. It is understood that there are not many studies that have compared epidemiological data on the prevalence, incidence and relative frequencies of ILDs.

Historically a population based registry differentiating between various types of ILDs established in New Mexico (1988-90) and presented by Coultas *et al* in 1994 was a landmark study in this respect [1]. More recently a comparison of registries established in three European countries; Belgium, Germany and Italy and published as a report in ERJ supplement 2001 highlighted the similarities and dissimilarities between the distribution of disease in these countries [2]. This report also suggested a more global approach with consistent inclusion criteria for future registries in order to establish genuine demographic differences in various populations of the world.

There is a great paucity of published data reporting ongoing ILD registries in Asia. Specifically, no published data is available to provide any information about the status of Interstitial Lung Diseases (ILD) in Pakistan. However we are maintaining this ongoing registry to determine the incidence and relative frequency of various ILDs in Karachi, it's most populous multiethnic city (approx 20 million) [3]. The data collected between 2008-11 was presented earlier at ERS Congress 2012 [4]. This presentation comprises of data collected between Jan 2012 – Aug 2013.

Methods

We reviewed data from a registry catering to 4 pulmonology clinics in different areas of Karachi city. The registry is based on a detailed questionnaire comprising of more than 100 variables of which the following were basic and mandatorily recorded.

- **Age & Gender**
- **Exposure history** of industrial, chemical, agricultural and avian origin
- **Smoking history**
- **Clinical presentation & Co-morbidities**
- **HRCT findings** – reviewed by experienced radiologists at Advanced Radiology Clinic & Aga Khan University Hospital
- **PFT findings** – Spirometry done on Vitalograph 2120 (Spirotrac 3 & 4), Vitalograph Compact, Vitalograph Alpha Touch (Spirotrac 5) and Med Graphics
- **BAL, VATS & Histopathology data** (if available).

Few variables like SaO₂ with 6 minutes walk and Echocardiogram were also recorded in suspected cases of pulmonary artery hypertension (PAH).

Prospective recording of diagnosed ILD cases was done from Jan 2012 to Aug 2013.

SPSS version 17 was used to record and analyze the data. Categorical data was presented in frequencies & percentages whereas numerical data was presented in mean \pm standard deviation (SD). P-value <0.05 was considered as statistically significant.

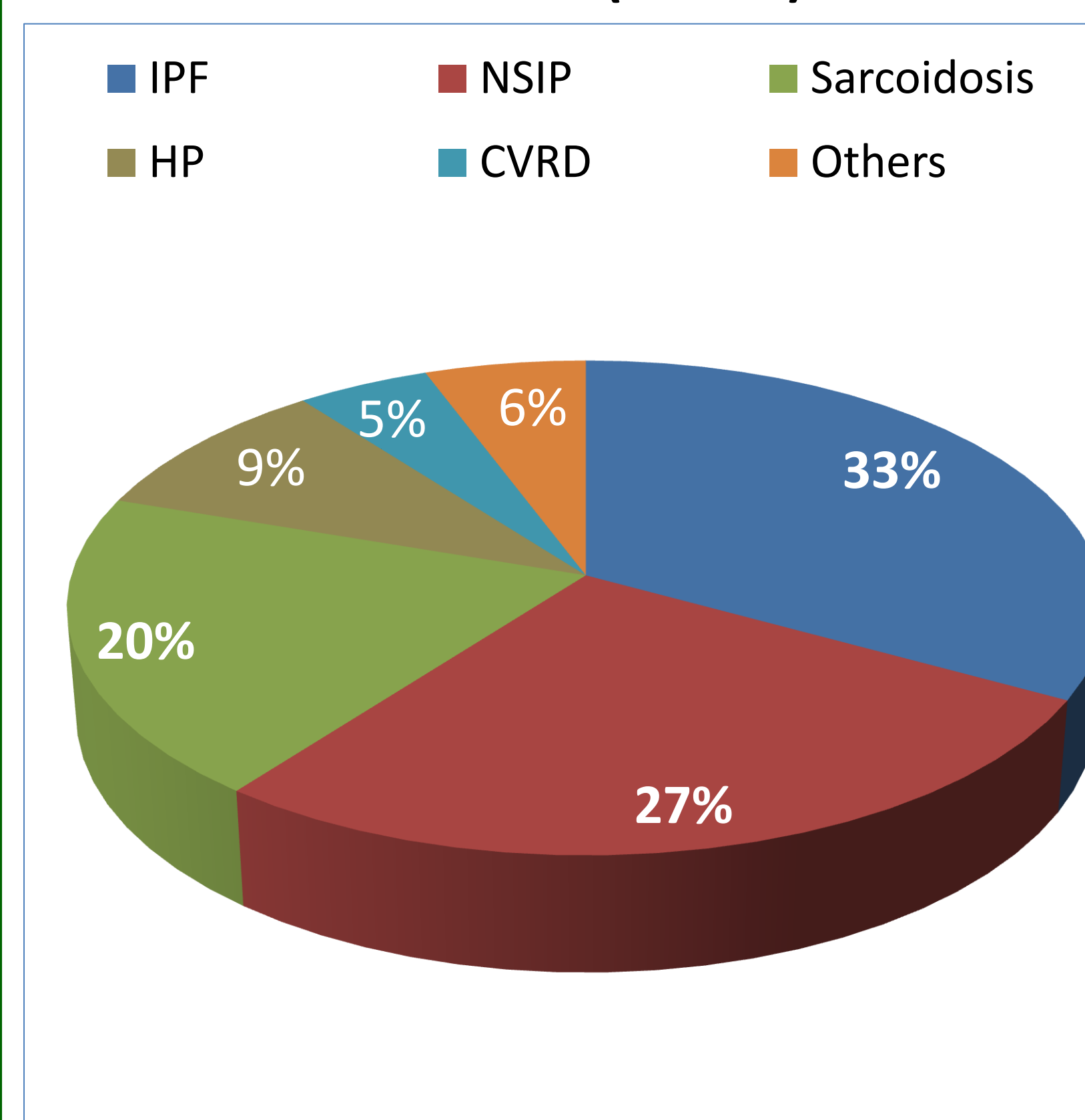
Results

In a total of 2065 pulmonology referrals during this registry period, the incidence of ILD was 5.1% (n=106) with a mean age of 55.9 years (\pm 12.9 SD).

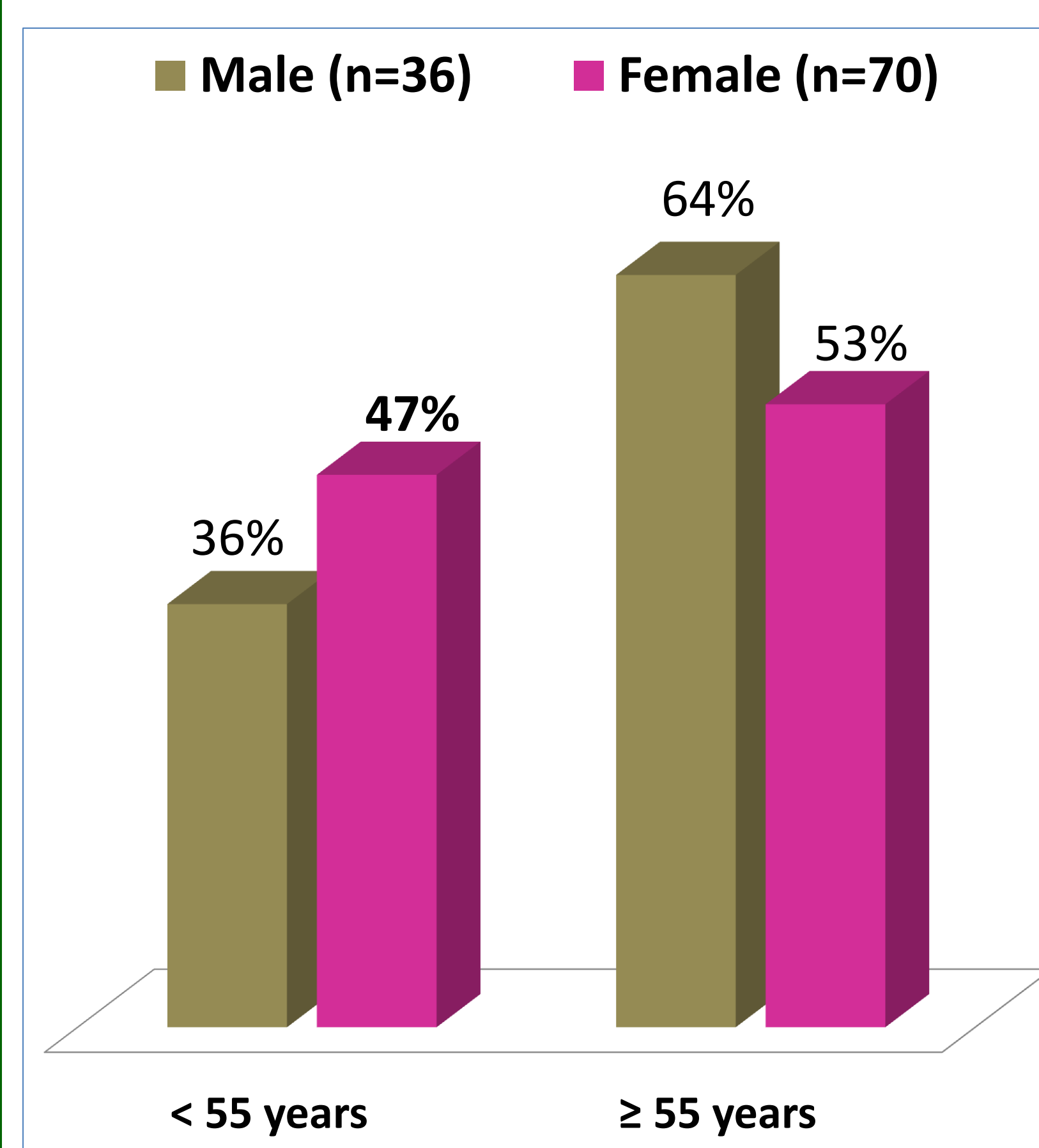
Out of 106 ILD cases; Idiopathic Pulmonary Fibrosis (IPF) (33%), Non Specific Interstitial Pneumonitis (NSIP) (27.4%) and Sarcoidosis (19.8%) were the most frequent ILDs followed by Hypersensitivity Pneumonitis (HP) (9.4%), Collagen Vascular Disease Related (4.7%) and others (5.7%) [Figure-1]. Reporting females (n=70) outnumbered males (n=36). The incidence of IPF was significantly greater in males (47.2%; p=0.026) and NSIP occurred significantly more in females (34.3%; p=0.027) while the difference in incidence of sarcoidosis between the two sexes was insignificant (males 19.4% vs. females 20%; p=0.946) [Table-1].

Interestingly, out of 18 IPF & 5 HP diagnosed housewives living in congested areas, 44.4% & 40% respectively had avian exposure due to home breeding/pets.

Figure-1: Relative Frequency of ILD Incidence (n=106)



Gender Wise Age Distribution (n=106)



IPF= Idiopathic Pulmonary Fibrosis, NSIP= Non Specific Interstitial Pneumonitis, HP= Hypersensitivity Pneumonitis, CVRD= Collagen Vascular Disease Related

Table-1: Gender wise Distribution: Diagnostic Types and Exposure (n=106)

		Male (n=36)	Female (n=70)	P-value
Diagnosis	IPF	17 (47.2%)	18 (25.7%)	0.026
	NSIP	5 (13.9%)	24 (34.3%)	0.027
	Sarcoidosis	7 (19.4%)	14 (20%)	0.946
	HP	4 (11.1%)	6 (8.6%)	0.672
	CVRD	1 (2.8%)	4 (5.7%)	0.499
	Others	2 (5.6%)	4 (5.7%)	0.973
Exposure	None	23 (63.9%)	47 (67.1%)	0.738
	Avian	6 (16.7%)	22 (31.4%)	0.103
	Chemical	3 (8.3%)	0	0.014
	Industrial	3 (8.3%)	0	0.014
	Agriculture	1 (2.8%)	1 (1.4%)	0.629

Conclusion

This ongoing registry establishes for the first time a rising incidence of ILD in Pakistani population and describes its diagnostic facets.

Clinical Implications

We hope that this will lead to greater disease awareness and help us in expanding this registry to all major cities of Pakistan.

We have already begun the process through a well designed website under domain of WWW.ILDPAK.COM.

Acknowledgement

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