


## WISC : 2012. ICAAI Symposium Highlights of Airway Diseases



### Pediatric Asthma in India

#### Dr.H. Paramesh

MD, FAAP(USA), FIAPFIAMS, FIAA, FCAA

- Director, Pulmonologist, Environmentalist, Lakeside Hospital, Bangalore
- Chairman I.A.P Resp Chapter (Past) Best Chapter Awardee
- Founder Chairman I.A.P. Environment and Child Health group
- Founder Chairman I.A.P Allergy and Applied Immunology Chapter
- Member National Task Force on Asthma
- Member International Consensus on (ICON) Pediatric Asthma - 2012

## Flow of Talk

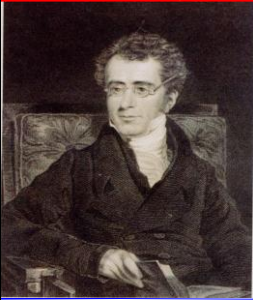
- Need for ICON on Asthma
- Magnitude of the problem
  - Historic, Asia Pacific
  - Indian and Bangalore
- Urban and Rural Children
- Age Distribution
- Gender Distribution
- Presenting Symptoms
- Co morbidities
- Challenges
- Conclusion

## Need for ICON in Childhood Asthma

- Many guidelines/Consensus documents vary in scope/methodology/focus/exclusivity in pediatric Asthma
- Pediatric asthma presents challenges not seen in adults:
 

<ul style="list-style-type: none"> <li>• Pathophysiology</li> <li>• Developing immune system</li> <li>• Natural history</li> <li>• Variable response to medications</li> </ul>	<ul style="list-style-type: none"> <li>• Developing respiratory system</li> <li>• Uncertainty in diagnosis</li> <li>• Lack of good evidence</li> <li>• Adolescent rage of age</li> </ul>
--	--
- International Collaboration of Asthma, Allergy and Immunology (ICALL) was formed under EAACI, AAAAI, ACAAI and WAO to critically review the existing guidelines globally

## World-Wide Increasing Prevalence of Airway Allergies in Children



**ALLERGIC RHINITIS**  
1819 – 28. cases over 9years  
(John Bostock)  
2010 – around 20-30%

**ASTHMA**  
1950. PREVALENCE -1%  
2010. PREVALENCE– 10-30%

United airway concept

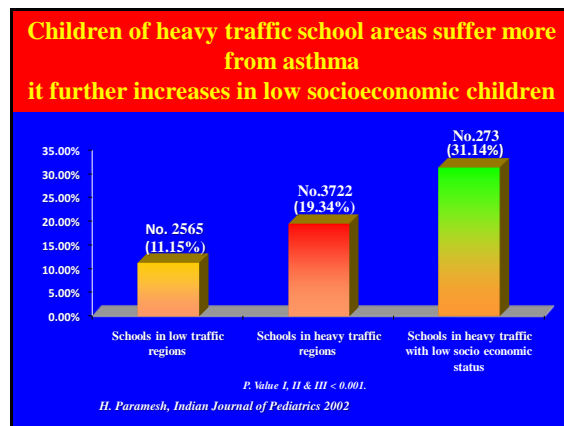
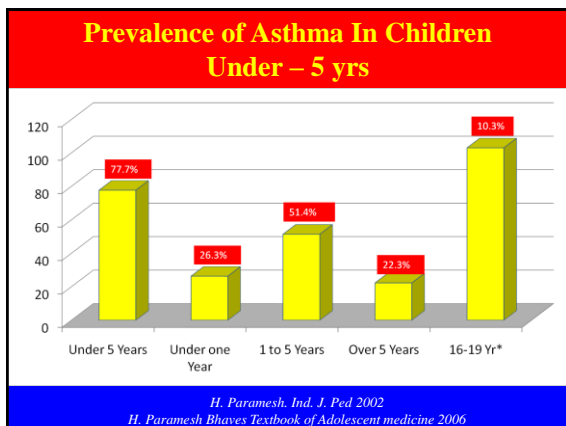
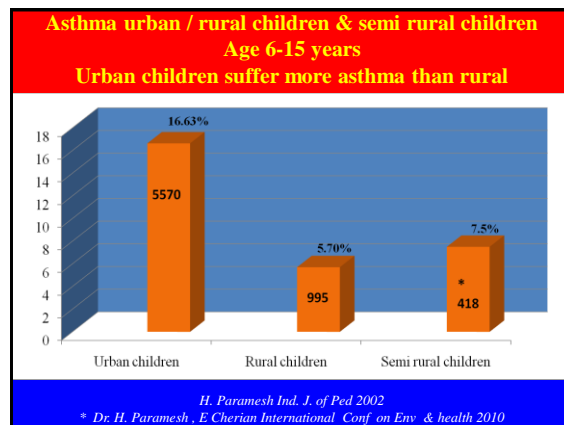
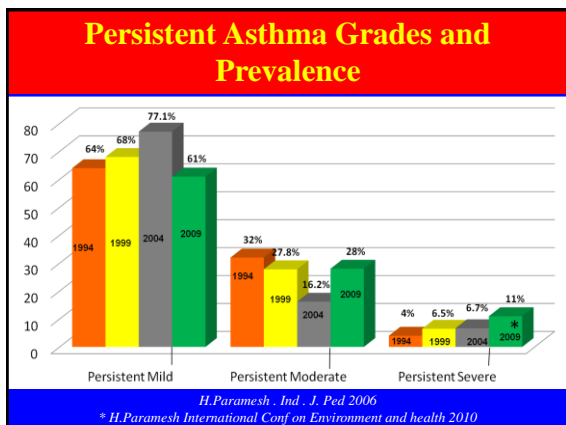
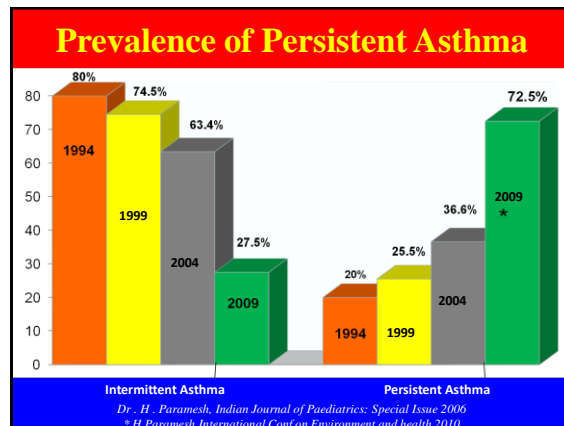
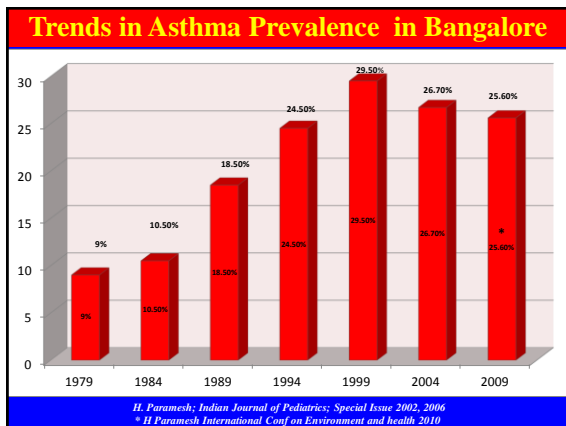
### Asthma in Asia Pacific Area

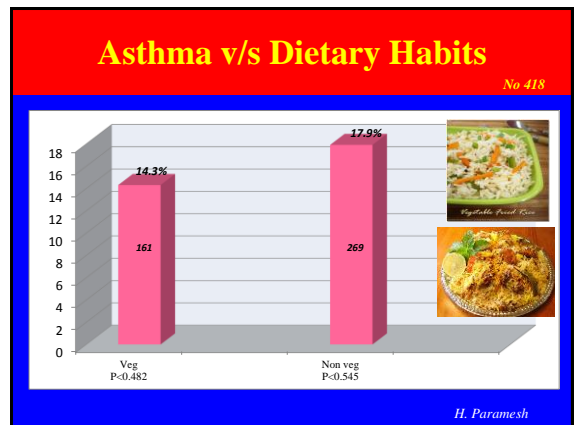
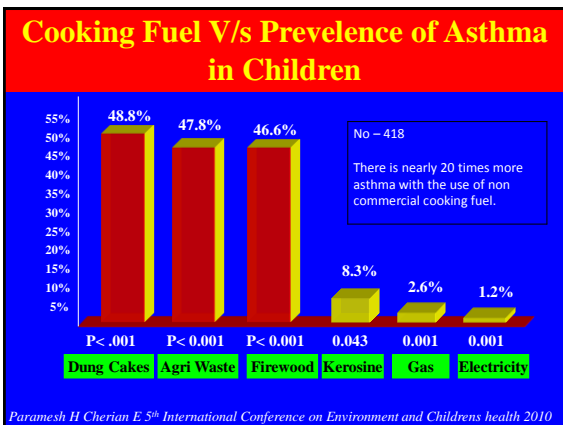
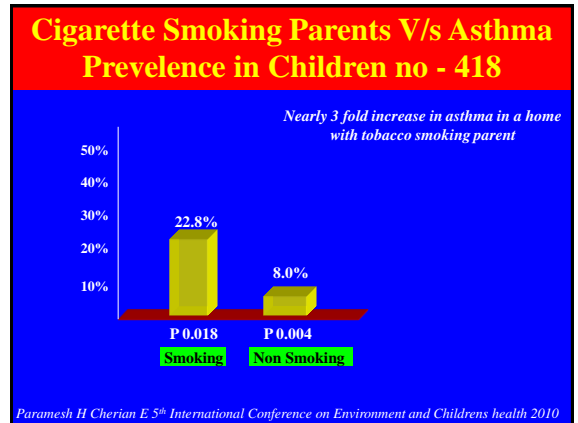
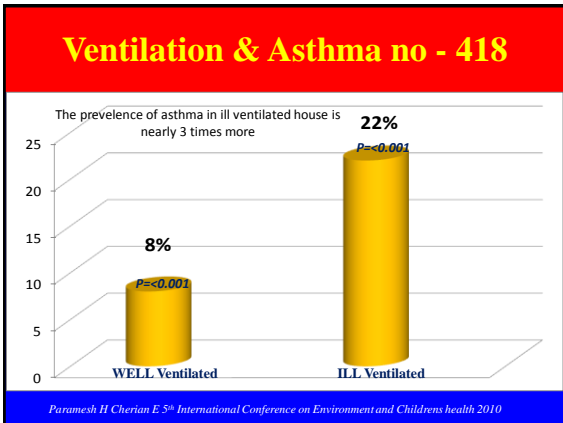
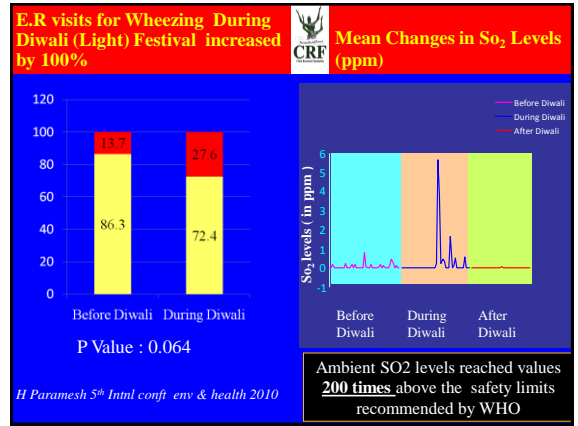
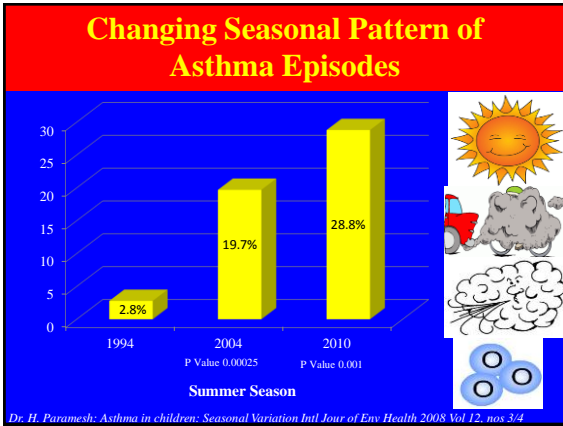
Cities	Year	Prevalence	Author
Singapore	5.5% (1967)	20% (1994)	Goh D.Y. et al.
Thailand		14.5% (2003)	Vanhyonond et al
Indonesia (Sabang)		9.6% (2004)	Sundaru.H
Malaysia	12yrs	13.8% (2005)	Yousuf .M.O
Philippines	13 – 14yrs	18.1% (2004)	Roa.CC et al

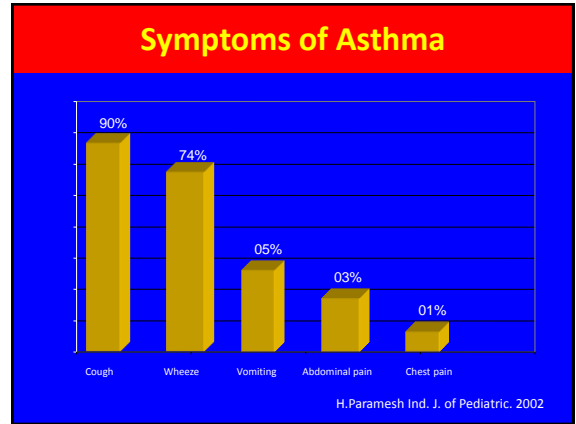
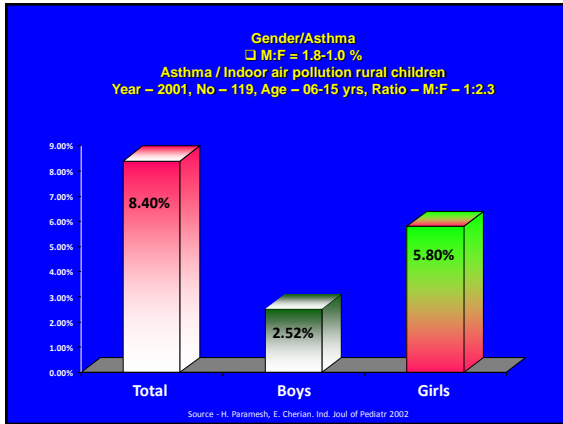
### Prevalence Studies on Childhood Asthma in India

Cities	Year	Age	Prevalence	Author
Patna	1966	0 - 9	0.2%	Viswanathan et al
New Delhi	1998	5 - 16	11.9%	Chhabra et al
14 Cities	1997	13 - 14	2 – 8%	I S A A C
Chandigarh	2001	9 - 20	2.6% (B) 1.9% (G)	Gupta et al
Chennai	2002	< 12	18%	Chakravarthy et al
Lucknow	2004	6 – 7	2.3%	Aswathi et al
		13 – 14	3.3%	
Bangalore	2002	6 – 15	11 to 31%	Paramesh. H
Bangalore	2006	< 18	26.7%	♦Paramesh. H

Sunil K. Chhabra. Ind.J. of Pediatrics SS.No 1: 2006 S1 - 4  
♦Paramesh. H Ind.J. of Pediatrics SS.No 1: 2006. S51.S5



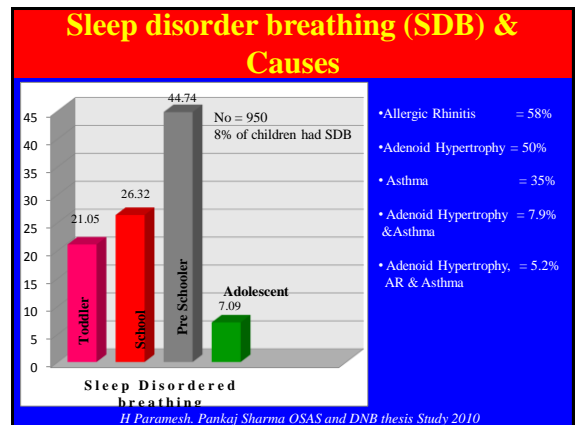
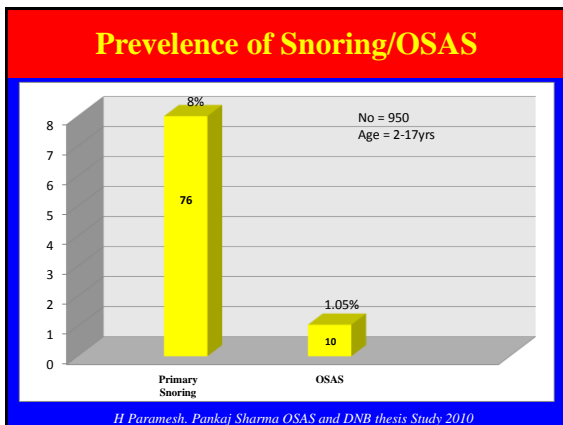
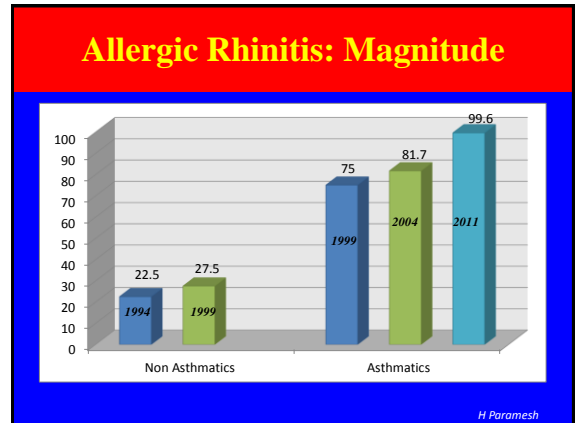




### Respiratory Allergy Triggers

Aero-biologicals		Irritants	
❖ Dust mite	- 50% 5000/g	❖ Cigarette smoke	
❖ Cockroach	- 25.00%	○ 1994	- 6.0%
❖ Fungi Pollens	- 07.50%	○ 1999	- 7.5%
❖ Pets	- 05.00% (2002) 05.7% (2010)	○ 2004	- 7.9%
❖ Viruses	- 40.00%	❖ Mosquito Coil	
○ RSV		○ 2002	- 5.0%
○ Para influenza		○ 2010	- 7.9%
○ Corono		❖ Other smokes	
○ Adeno			
○ Rhino		❖ Formaldehyde	
❖ Food	- 19.90%	❖ Volatile organic compounds	

H. Paramesh Indian Journal of Pediatrics – 2002, 2006



## Challenges in Managing Asthma (ICON)

### Under 5 Yrs

- Difficulty in Diagnosis
- No objective proof
- Breathlessness, short of breath, congestion, difficult to breathe are not reliable to wheeze
- Consider other causes for wheeze
- Efficacy safety of drugs
- Delivery system
- Difficult to predict response to a specific drug
- Symptoms may change with age

### Adolescents

- Non Compliance
- Girls hesitate to take inhalers – marriage, mother – in-law
- Psychosocial problem – suicidal tendency
- Restrict sports activity

## Conclusion:

- Pediatric asthma is a major challenging health burden
- After a steady increase in prevalence for 2 decades there is slight decrease for the past 5 yrs
- However there is increase in persistent and persistent severe asthma
- High prevalence is noted in urban children, and in children from ill ventilated houses, heavy traffic schools, poor indoor air pollution, non vegetarians, and low income group
- Our aim should be for primary prevention and controlling the disease, while adopting the guidelines for the local needs.

