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Research Article

HIGH PREVALENCE OF ASTHMA SYMPTOMS IN INDUSTRIAL AREA CHILDREN, SIGNIFICANTLY ASSOCIATED WITH TOWEL AND CHADDAR MANUFACTURING FACTORIES

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ABSTRACT

Objective

- Its important to find out what are the major risk factors for Asthma in children and can we prevent them in future?
- Our study try to analyze connection between environmental allergens to asthma, specially in children living in Textile industrial area.

Methodology: We preformed a cross sectional observational study from June 2012 to June 2017 in which asthma symptoms were defined according IAP-ATM module, GINA guidelines. Like recurrent cough, nocturnal cough, rhinitis, breathlessness were noted The association between Towel-Chaddar industry and prevalence of asthma symptoms were calculated. -The Present study consist of randomly selected 1416 babies attending respiratory clinic in last 5 years. Results--We included total 1146 children of asthma coming for respiratory clinic in last 5 years

- 361 are from industrial area & near that.
- 785 children are from other areas of 4 districts.
- Asthma symptoms were recorded in these children.
- The prevalence of asthma symptoms is more in these children (31.5%), may be associated with allergens in the form of cotton fibres, dyes & other raw material used in this industry.

Conclusion

Our findings suggest that the children living in MIDC industrial area in Solapur, where there is lot of chaddar and towel industry have more risk factor for developing asthma than other children. They need higher doses of inhalers & more prolonged therapy than other babies to become symptom free. They develop more acute exacerbation than other babies.

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INTRODUCTION

Objective

- Its important to find out what are the major risk factors for Asthma in children and can we prevent them in future?
- Our study try to analyze connection between environmental allergens to asthma, specially in children living in Textile industrial area.
- The continuous exposure to allergens in the form of raw material needed for chaddar, towel and dyes as possible risk factor for having asthma symptoms.
- To aid in the early identification, in younger children who are at high risk of developing persistent asthma and treat them to have complete control.

Methodology

The present study was conducted at Ashwini Rural medical college, kumbhari, SPAN Critical Care Centre, Solapur from the period of last 5 Years.

- We preformed a cross sectional observational study from June 2012 to June 2017 in which asthma symptoms were defined according IAP-ATM module, GINA guidelines. Like recurrent cough, nocturnal cough, rhinitis, breathlessness were noted The association between Towel-Chaddar industry and prevalence of asthma symptoms were calculated. Our study try to analyze connection between environmental allergens to asthma outgrowing in

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children. Random selection of patients are done on clinical base studies.

- The Present study consist of randomly selected 1146 babies attending respiratory clinic in last 5 years.

Selection Criteria

Inclusion Criteria

- Children presenting with signs and symptoms of asthma.
- Either Sex
- Children aged between 1 upto 12 Yrs.

Exclusion Criteria

- History of pneumonia
- Congenital heart disease
- Neuromuscular disorders

Data Collection

- Demographic characteristic such as sex and age were recorded on the predesigned performa.
- Area of living, crowded, industrial area etc were noted.
- They were interviewed for the history and symptoms.

Examination was done.

Accordingly classified.

Procedure

A past history of croup, bronchiolitis, acute respiratory illness, wheeze associated lower respiratory infections is determined at the onset of study, when the children were from 6 month to 5 yrs of age.

- Airway hyperresponciveness is determined by primarily by signs and symptoms, only when needed PFT was done(FEV/ FVC ratio, PEER noted)
- Gradings done.

Statistical analysis

The data obtained was coded and entered into Microsoft Excel spread sheet

The categorical data was expressed as rates, ratios and percentages.

RESULTS

We included total 1146 children of asthma coming for respiratory clinic in last 5 years.

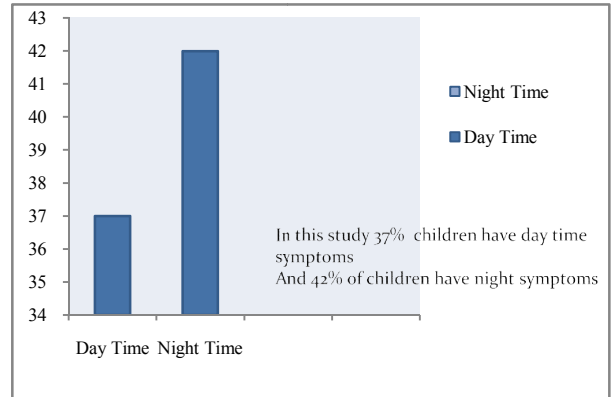
- 361 are from industrial area & near that.
- 785 children are from other areas of 4 districts.
- Asthma symptoms were recorded in these children.
- The prevalence of asthma symptoms is more in these children (31.5%), may be associated with allergens in the form of cotton fibres, dyes & other raw material used in this industry.

Table 1 Sex Distribution Distribution (n=361)

Sex	Number	Percent
Male	189	52.4%
Female	172	47.6%
Total	361	100%

Table 2 Symptoms Variation Distribution (n=361)

Day times	37%
Night time	42%



Graph 2 Symptoms Variation

Table 3 Past History Distribution (n=361)

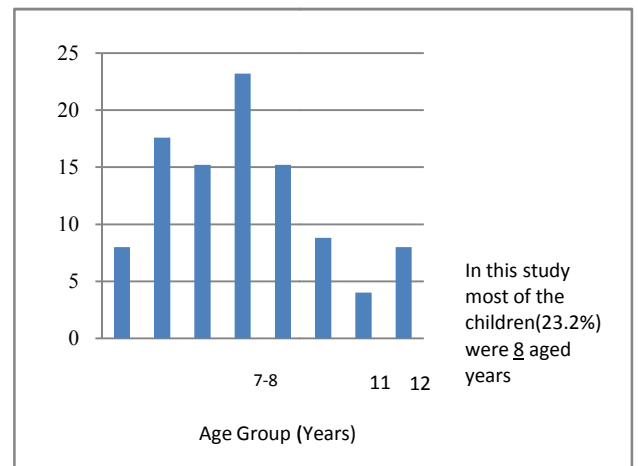
	Number	Percent
Significant family history	125	34.6%
NO Significant family history	236	65.4%

Table 4 Past acute respiratory illness Distribution (n= 361)

Diagnosis	Number	Percentage
Past H/O respi illness	160	44.3%
NO significant respi illness	201	55.8%

Table 5 Clinical Diagnosis Distribution (n=361)

Diagnosis	Number	Percentage
Mild Persistent	184	51.2
Moderate Persistent	78	20.8
Severall Persistent	12	3.2
Intermittent	87	24.8
Total	361	100



Graph 6 Age Distribution Distribution (n=361)

Table 7 presenting symptoms Distribution (n=361)

Clinical Signs	Number	Percentage
Cough	288	80
Breathing Difficulty	361	100
Chest tightness	66	18.4
Fever	72	20
Recurrent Wheeze	361	100

Table 8 Exacerbations per year Distribution (n=361)

Exacerbations	Number	Percentage
One	98.19	27.2
Two Or More	83.7	23.2
Nil	179	49.6

Table 10 Wheeze in first two years outgrowing as asthma Distribution (n=361)

Diagnosis	Number	Percentage
Past history of respiratory illness & out grow as asthma	108	30
No Past history of respiratory illness & outgrow as asthma	25	6.7

Table 11 Positive family history of asthma and outgrow as persistent asthma after 6 years Distribution (n=125)

Diagnosis	Number	Percentage
Outgrow as asthma after 6 years	45	36
Not outgrow as asthma after 6 years	80	64

Table 12 Incidence of asthma in Industrial area Distribution (n=1146)

Diagnosis	Number
Industrial area	361
Other	785

Incidence of acute exacerbation

Diagnoses	Number
Industrial area children	2
Non-Industrial area children	0-1

Inhaler therapy duration

Diagnosis	Number
Industrial area children	36
Non-Industrial area children	24

CONCLUSION

Our findings suggest that the children living in MIDC industrial area in Solapur, where there is lot of chaddar and towel industry have more risk factor for developing asthma than other children. They need higher doses of inhalers & more prolonged therapy than other babies to become symptom free. They develop more acute exacerbation than other babies.

Reference

1. Pocket guide for Asthma management and prevention (for adults and children older than 5 years). USA: Global Initiative for Asthma (GINA):2009.
2. Bhogal S, Zemek R, Ducharme FM. Written action plans for asthma in children. *Cochrane Database Syst Rev.* 2006; 3(3).
3. Pocket guide for Asthma management and prevention (for adults and children older than 5 years). USA: Global Initiative for Asthma; 2011.
4. Akinbami L. Centers for Disease Control and Prevention National Center for Health Statistics. The state of Childhood asthma in United States 1980-2005. *Adv Data.* 2006; 381:1-24.
5. Goldman L, Ausiello D, Cecil Textbook of Medicines; 23rd ed, Philadelphia; Saunders Elsevier; 2007:1.
6. El-Khedr SM. The impact of Peak Flow Meter Training in Enhancing Self-Efficacy of Asthmatic Children. *J Am Sci.* 2012; 8(1):1-12.

7. Joynston S, Pattemore P. Community study of role of viral infections in exacerbation of asthma in 9-11 year old children. *Br Med J.* 1995; 310:1225-8.
8. Kleigman RM, Stanton BF. Textbook of Pediatrics. 19th ed., Philadelphia: Saunders-Elsevier; 2011.
9. Britton J, Lewis S. Objective measures and the diagnosis of asthma: we need a simple diagnostic test-but don't yet have one. *BMJ.* 1998; 317:227-8.
10. Mason RJ, Broaddus CV, Martin T, King T, Schraufnagel D, Murray JF. *et al.* Murray and Nadel's textbook of respiratory medicine. 5th ed. Philadelphia: Saunders/Elsevier; 2010.
11. Godfrey S, Springer C. Cut; off points defining normal and asthmatic bronchial reactivity to exercise and inhalation challenges in children and young adults. *Eur Respir J.* 1999; 14:659-68.
12. Martinez FD, Wright AL, Taussig LM. Asthma and wheezing in the first six years of life. The Group Health Medical Associates. *N Engl J Med.* 1995; 332:133-8.
13. Cane RS, Ranganathan SC, McKenzie SA. What do parents of wheezy children understand by 'wheeze'? *Arch Dis Child.* 2000; 82:327-32.
14. Chang AB. Isolated cough: probably not athama. *Arch Dis Child.* 1999; 80:211-13.
15. Antony S, Douglas S, Gorden LA, Croflon and douglas's Respiratory diseases, 5th ed. Oxford Blackwell Science Lts. 2000;1.
16. Nystad W, Samuelson SO, Nafstad P, Edvardsen E, Stensrud T, Jaakkola JJ. Feasibility of measuring Patil PM *et al.* *Int J Contemp Pediatr.* 2017 May; 4(3):762-768 *International Journal of Contemporary Pediatrics* | May-June 2017 | Vol 4 | Issue 3 Page 768 lung function in preschool children. *Thorax* 2002; 57:1021-7.
17. Dundas I, Mckenzie S. Spirometry for children 3-6 years old. *Curr Opin Pulm Med CME.* 2006; 12(1)28-33.
18. Eugene Y, Woojung K, Byoung CK, Sung YC, Myung HS, Kyu EK. Relationship among pulmonary function, bronchial hyper responsiveness, and atopy in children with clinically stable asthma. *Lung.* 2006; 184(2):73-9.
19. Global Initiative for Asthma (GINA). Global strategy for asthma management and prevention. Publication No. 02-3659. Washington, DC: National Institutes of Health, National Heart, Lung and Blood Institutes; 2002.
20. British Thoracic Society British guideline on the management of asthma. *Thorax.* 2003; 58(1):17-28.
21. Rasmussen F, Taylor DR, Flannery EM, Cowan JO, Greene JM, Herbison GP, *et al.* Risk factors for airway remodeling in asthma manifested by a low post broncholidator FEV1/vital capacity ratio: A longitudinal Population study from childhood to adulthood. *Am J Respir Crit Care Med.* 2002; 165:1480-8.
22. Ubick CS, Backey V, Markers of impaired growth of pulmonary function in children and Adolescents, *Am Jr ESPIR Crit Care Med.* 1999; 160:40-4.
23. National Asthma Education and Prevention Program: Expert panel Report 3(EPR 3); Guidelines for the diagnosis and management of asthma- summary report 2007. *J Allergy Clin Immunol.* 2007; 120(5):94-138.
24. Laitinen LA, Laitinen A, Haahtela T, Airway mucosal inflammation even in patients with newly diagnosed asthma. *Am Rev Respir Dis.* 1993; 147:697-704.

25. Mellins RB, Zimmerman B, Clark NM. Patient compliance. *Am Rev Respir Dis.* 1992; 146:137-77.
26. Shelledy D, Stroller JK, introduction to clinical diagnostic thinking. In: Stoller JK, Bakow ED, Longworth DL, eds. *Critical Diagnostic Thinking in Respiratory Care-A Case Based Approach.* Philadelphia: WB Saunders; 2002:1-38.
27. Wainwright C, Isles AF. Respiratory emergencies in children. *Modern Med.* 1999; 16:34-45.
28. Al-Ghamdy YS, Al-Haddad NS. Socio-clinical profile of children with asthma in Al-Majmaah Health Province, Saudi Med J. 2002; 21(9):847-51.
29. Al-FrayhAR, AlNahdi M, Bener A, Al-Jawadi TQ. In: Epidemiology of asthma and allergic rhinitis in two coastal areas of Saudi Arabian school children. *J All Immunol.* 1989; 21:389-93.
30. Pal R, Dahal S, Pal S. Prevalence of Bronchial Asthma in *Indian J Comm Med.* 2009; 34:310-6.
31. International study of Bronchial Asthma and allergies in childhood (ISAAC) Worldwide variations in the prevalence of Bronchial Asthma symptoms. *Euro Respir J.* 1998; 12:315-15.
32. Singh M, Mathew JL, Malhi P, Srinivas BR Kumar L, Comparison of Improvement in quality of life score with objective parameters of pulmonary function in indian asthmatic children receiving inhaled corticosteroid therapy. *Indian Pediatr.* 2004;41:1143-7.
33. Education NA, Program P. Lung, Asthma BISEPpotMo. Expert Panel report 2: guidelines for the diagnosis and management of asthma: DIANE Publishing. 1998.
34. Bacharier NA, Strunk RC, Mauger D, White D, Lemanske RF, Sorkness CA. Classifying asthma severity in children: Mismatch between symptoms, medication use, and lung function. *Am J Respir Crit Care Med.* 2004; 170(4):426-32.
35. Paull K, Cover R, Jain N, Gelfand EW, Spahn JD. Do NHLBI lung function criteria apply to children? A cross sectional evaluation of childhood asthma at National Jewish Medical and Research Center, 1999-2002. *Pediatr Pulmonol.* 2005; 39(4):311-7.
36. Strunk RC, Weiss ST, Yates KP, Tonascia J, Zeiger RS, Szefer SJ. Mild to moderate asthma affects lung growth in children and adolescents. *J Allergy Clin Immunol.* 2006; 118(5):1040-7.
37. Lugogo N, Que LG, Fertil D, Monica Kraft. Asthma In: Mason RJ, Broaddus VC, Martin TR, King TE, Schraufnagel DE, Murray JF, Nadel JA, editors. *Mason: Murray and Nadel's Textbook of Respiratory Medicine* 5th ed. Philadelphia: saunders Elsevier; 2010:883-914.
38. Brown RH, Pearse DB, Pyrgos G, Liu MC, Togias A, Permutt S. The structural basis of airways hyper responsiveness in asthma. *J Applied Physiol.* 2006; 101(1):30.
39. Weiss ST, Van Natta ML, Zeiger RS. Relationship between increased airway responsiveness and asthma severity in the childhood asthma management program. *Am J Respir Crit Care Med.* 2000; 162(1):50. Cite this article as: Patil PM, Chavan M. Study on to assess pulmonary function test changes in asthmatic child using spirometry and and its diagnostic and prognostic value. *Int J Contemp Pediatr* 2017; 4:762-8.

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