

# **Assessment of Asthma Control in Asthmatic Patients in Ain Shams Pediatric Chest Clinic**

## **Thesis**

Submitted for Partial Fulfillment of Master  
Degree in Pediatrics

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قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا  
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ  
الْعَلِيمُ الْحَكِيمُ

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# *List of Contents*

<i>Title</i>	<i>Page No</i>
<b>Introduction .....</b>	<b>١</b>
<b>Aim of work .....</b>	<b>٣</b>
<b>Review of literature:</b>	
○ Part ١: Pediatric bronchial asthma .....	٤
- Definition & Epidemiology .....	٥
- Risk Factors for Asthma .....	٨
- Etiology of asthma .....	١٩
- Diagnosis of asthma .....	٣٣
- Management of asthma .....	٤٤
○ Part ٢: Asthma control .....	٥٠
○ Part ٣: Asthma control test (ACT) .....	٧٦
<b>Subjects and methods .....</b>	<b>٨٣</b>
<b>Results .....</b>	<b>٩٣</b>
<b>Discussion.....</b>	<b>١٢٤</b>
<b>Summary and conclusion .....</b>	<b>١٣٣</b>
<b>Conclusions .....</b>	<b>١٣٧</b>
<b>Recommendations .....</b>	<b>١٣٨</b>
<b>Appendix .....</b>	<b>١٣٩</b>
<b>References .....</b>	<b>١٤٤</b>
<b>Arabic summary.....</b>	<b>_____</b>

## *List of Figures*

<i>Figure</i>	<i>Subject</i>	
(١)	Prevalence and mortality from asthma .....	٧
(٢)	Changes in the airway in asthma .....	٢٠
(٣)	Pathogenesis of Asthma .....	٢٢
(٤)	Inflammation in asthma .....	٢٣
(٥)	Helper T cell .....	٢٤
(٦)	Role of mast cell .....	٢٦
(٧)	Eosinophil mediators .....	٢٨
(٨)	Triggers of asthma .....	٣١
(٩)	Diagnosis of bronchial asthma .....	٣٣
(١٠)	Algorithm for spirometry interpretation .....	٣٨
(١١)	Lung functions testing .....	٣٩
(١٢)	Differential diagnosis of bronchial asthma ...	٤٢
(١٣)	The goals of asthma management .....	٥١
(١٤)	Treatment algorithm for patients with asthma .....	٥٣
(١٥)	Example of a questionnaire for self-assessment of asthma control .....	٦٥
(١٦)	The Childhood Asthma Control Test (٤-١١ years) .....	٦٦
(١٧)	The Childhood Asthma Control Test (≥١٢ years) .....	٦٧
(١٨)	Example of a personalized Asthma Action Plan .....	٧٥
(١٩)	Micro peak, peak flow meter .....	٨٨

## *List of Figures (Cont.)*

<i>Figure</i>	<i>Subject</i>	<i>Page</i>
(٢٠)	Statistical comparison between controlled &uncontrolled patients as regards to sex ...	١٠٠
(٢١)	Statistical comparison between controlled &uncontrolled patients as regards to residence .....	١٠١
(٢٢)	Statistical comparison between controlled &uncontrolled patients as regards to smoking .....	١٠٢
(٢٣)	Statistical comparison between controlled &uncontrolled patients as regards to socioeconomic st .....	١٠٣
(٢٤)	Statistical comparison between controlled &uncontrolled patients as regards to maternal education .....	١٠٤
(٢٥)	Statistical comparison between controlled &uncontrolled patients as regards to asthma grade .....	١٠٧
(٢٦)	Statistical comparison between controlled &uncontrolled patients as regards to age of onset .....	١١٤
(٢٧)	Statistical comparison between controlled &uncontrolled patients as regards to dose of ICS .....	١١٠

## *List of Figures (Cont.)*

(٢٨)	Statistical comparison between controlled & uncontrolled patients as regards to PH of visiting ED .....	١١٥
(٢٩)	Statistical comparison between controlled & uncontrolled patients as regards to FH of bronchial asthma .....	١١٦
(٣٠)	Statistical comparison between controlled & uncontrolled patients as regards to FH of atopic disease .....	١١٧
(٣١)	Correlation between PEFr & ACT .....	١٢٠
(٣٢)	Correlation between PEFr & Age .....	١٢١
(٣٣)	Correlation between PEFr & Weight .....	١٢٢
(٣٤)	Correlation between PEFr & duration of illness .....	١٢٣

## *List of Tables*

<i>Table</i>	<i>Subject</i>	<i>Page</i>
(١)	Triggers of asthma .....	٣٢
(٢)	The differential diagnosis of bronchial asthma .....	٤٣
(٣)	Stepwise approach for managing asthma in children >٥ Yr of age .....	٤٦
(٤)	Classification of asthma control (children ١ - ٤ years of age).....	٤٧
(٥)	Classification of asthma control (children ٥ - ١١ years of age).....	٤٨
(٦)	Classification of asthma control (children $\geq 12$ years of age).....	٤٩
(٧)	Asthma Assessment and Treatment for Children Aged ١ to ٤ Years .....	٥٧
(٨)	Asthma Assessment and Treatment for Children Aged ٥ to ١١ Years .....	٥٩
(٩)	Asthma Assessment and Treatment for Youths Aged $\geq 12$ Years and Adults .....	٦١
(١٠)	Classification of asthma severity by clinical features .....	٨٤
(١١)	Demographic data of patients .....	٩٣
(١٢)	PEFR and ACT of patients .....	٩٤



## *List of Tables (Cont.)*

(١٣)	Distribution of asthma grades between patients .....	٩٤
(١٤)	Distribution of asthma treatment between patients .....	٩٥
(١٥)	Distribution of asthma symptom and clinical history between patients .....	٩٦
(١٦)	Comparison between controlled and uncontrolled patients as regards demographic data .....	٩٧
(١٧)	Comparison between controlled and uncontrolled patients as regards PEFr results .....	١٠٥
(١٨)	Comparison between controlled and uncontrolled patient regards to grades of asthma .....	١٠٦
(١٩)	Comparison between controlled and uncontrolled patient regards treatments of asthma .....	١٠٨
(٢٠)	Comparison between controlled and uncontrolled patient regards symptoms and clinical history of asthma .....	١١١
(٢١)	Logistic regression for risk factor for uncontrolled asthma .....	١١٨
(٢٢)	Correlation between PEFr, ACT, and other	١١٩

	<b>parameters .....</b>	
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## *List of Abbreviation*

Abbrev.	
<b>AAT</b>	<b>Alpha-<math>\text{1}</math>-antitrypsin</b>
<b>ACQ</b>	<b>Asthma Control questionnaire</b>
<b>C-ACT</b>	<b>Childhood Asthma Control Test</b>
<b>BAL</b>	<b>Broncho Alveolar Lavage</b>
<b>BOOP</b>	<b>Bronchitis oblitran-organizing pneumonia</b>
<b>BPD</b>	<b>Broncho-pulmonary dysplasia</b>
<b>CD</b>	<b>Cluster of differentiation</b>
<b>CF</b>	<b>Cystic fibrosis</b>
<b>CHF</b>	<b>Congestive heart failure</b>
<b>CIR</b>	<b>Clinical Improvement Registry</b>
<b>COPD</b>	<b>Chronic obstructive pulmonary disease</b>
<b>DPI</b>	<b>Dry powder inhaler.</b>
<b>ECG</b>	<b>Electrocardiogram</b>
<b>ED</b>	<b>Emergency Department</b>
<b>EIB</b>	<b>Exercise-induced bronchospasm</b>
<b>ETS</b>	<b>Environmental tobacco smoke</b>
<b>FEF<math>\text{25-75}</math></b>	<b>Forced expiratory flow rate over <math>\text{25-75}\%</math> part of FVC</b>
<b>FEV<math>\text{1}</math></b>	<b>Forced expiratory volume in first second</b>
<b>FVC</b>	<b>Forced vital capacity</b>
<b>GERD</b>	<b>Gastro-esophageal reflux disease</b>

## *List of Abbreviation (Cont.)*

<b>Abbrev.</b>	
<b>HDM</b>	<b>House dust mites</b>
<b>GINA</b>	<b>Global Initiative for Asthma</b>
<b>ICS</b>	<b>Inhaled CorticoSteriode</b>
<b>IFN</b>	<b>Interferon</b>
<b>IgE</b>	<b>Immunoglobulin E</b>
<b>IL</b>	<b>Interleukin</b>
<b>LABA</b>	<b>Long Actining B<sub>2</sub> Agonist</b>
<b>LTRA</b>	<b>Leukotriene receptor antagonists</b>
<b>MDI</b>	<b>Meter-dose inhaler</b>
<b>MMCPHO</b>	<b>Maine Medical Center Physician Hospital Organization</b>
<b>mRNA</b>	<b>Messenger RNA</b>
<b>NHLBI</b>	<b>National Heart, Lung, and Blood Institute</b>
<b>NK</b>	<b>Natural killer cells</b>
<b>O<sub>3</sub></b>	<b>Ozone</b>
<b>PAs</b>	<b>Physician assistants</b>
<b>Pco<sub>2</sub></b>	<b>Pressure of carbon dioxide</b>
<b>PEFR</b>	<b>Peak Expiratory Flow Rate</b>
<b>PFTs</b>	<b>Pulmonary function tests</b>
<b>RSV</b>	<b>Respiratory syncytial virus</b>
<b>SABA</b>	<b>Short Actining B<sub>2</sub> Agonist</b>
<b>SES</b>	<b>Socioeconomic state</b>

## *List of Abbreviation (Cont.)*

<b>Abbrev.</b>	
<b>SO<sub>2</sub></b>	<b>Sulpher dioxide</b>
<b>Th</b>	<b>T helper</b>
<b>TIM</b>	<b>T-cell immunoglobulin mucin</b>
<b>TNF</b>	<b>Tumor necrosis factor</b>
<b>VC</b>	<b>Vital capacity</b>
<b>VCD</b>	<b>Vocal cord dysfunction</b>
<b>WHO</b>	<b>World Health Organization</b>

## **Assessment of asthma control in asthmatic patients in Ain Shams pediatric chest clinic**

**El Sayed Abd El Latef Salem.**

### **Abstract**

**BACKGROUND:** The goal of asthma therapy is to achieve an optimal level of disease control, asthma control can be assessed using the validated asthma control test, measures of airway function, and overall assessment of risk and quality of life. The Childhood Asthma Control Test (C-ACT) has been proposed as a tool in assessing the level of disease control in asthmatic children.

**OBJECTIVE:** The aim of this study was to evaluate asthma control in asthmatic patients in Ain Shams Pediatric chest clinic & analysis of the factors involved in uncontrolled asthma.

**SUBJECT AND METHOD:** we evaluated 100 Asthmatic children, known and treated for bronchial asthma, and collected general data, medical history, disease onset, peak flowmeter, treatment, and asthma control test (ACT).

**RESULTS:** Uncontrolled asthma ( $ACT < 20$ ) was recorded in 66.7%, predictors for uncontrolled BA: bad ventilation, low SES class, presence of cough and dyspnea, false technique, poor compliance, +ve family history of bronchial asthma and repeated visits to ED with exacerbation. Peak expiratory flow rate (PEFR)- not ACT- was significantly positively correlated with age, weight, duration of illness and ACT.

**CONCLUSIONS:** About 2/3 (66.7%) of treated asthmatic patients had uncontrolled asthma. The major factors leading to poor asthma control are low SES, poor knowledge and poor compliance of the patients.

## INTRODUCTION

Asthma is a common chronic respiratory disease with prevalence of 12% of the world's population, and this prevalence is still rising (**National Heart, Lung and Blood Institute, 2005**).

By achieving optimal control of asthma, the risk of life-threatening exacerbations and severe morbidity can be greatly reduced. Therefore, achieving respiratory symptom control is one of the main targets in the management of patients with asthma.

The Global Initiative for Asthma (**GINA**) guidelines specify a number of goals for the long-term management of asthma.

Among these, are minimal chronic symptoms – including: nocturnal symptoms – minimal need for as-required  $\beta_2$  agonists and no limitations to daily activities. These treatment objectives are also pursued in (primary care) guidelines.

However, despite the availability of highly effective pharmacotherapy, poorly controlled asthma is reported in up to 70-90% of patients in Western Europe and the Asian-Pacific region (**Rabe et al., 2000**).