ASTHMA CONTROL TEST (ACT) IN ASTHMATIC CHILDREN

Thesis

Submitted For Partial Fulfillment
of Master Degree in Pediatrics

By

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M.B., B.Ch. (2001)
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بسم الله الرحمن الرحيم

وَأَنْزَلَ اللهُ
عَلَيْكَ الْكِتَابَ
والْحِكْمَةَ
وَعَلَّمَكَ مَا لَمْ
تَكُنْ تَعْلَمُ
وَكَانَ فَضْلُ
اللهِ عَلَيْكَ
عَظِيمًا

صدق الله العظيم

سورة النساء آية

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Emad Ibrahim

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LIST OF ABBREVIATIONS

Abbrev.	Meaning
A.C.S.S	Asthma control scoring system
A.C.T	Asthma control test
A.T.A.Q	Asthma therapy assessment questionnaire
A.B.G	Arterial blood gases
A.H.R	Airway-hyperresponsiveness
A.D.A.M	A disintegrin and metalloprotease
A.I.R	Asthma in real life
A.U.R	Area under curve
B.H.R	Bronchial-hyper-responsiveness
C.A.C.T	Childhood asthma control test
C.A.G.E	Composite atopy gene expression
C.A.S	Clinical asthma score
C.C.A.C.T	Chinese childhood asthma control test
C.D	Cluster of differentiation
C.Q.L.Q	Child quality of life questionnaire
E.P.R-3	Expert panel report-3
F.C.R	Fragment crystalline receptors
F.E.V	Forced expiratory volume
FeNO	Fractional exhaled nitric oxide
$\mathbf{F_{res}}$	Resonant frequency
G.I.N.A	Global initiative for asthma
I.C.S	Inhaled corticosteroids
I.g.E	Immunoglobulin E
I.O.S	Impulse oscillometry

LIST OF ABBREVIATIONS (Cont...)

Abbrev.	Meaning
L.A.β.As	Long-acting β2 receptor agonists
L.T.R.A	Leukotriene receptor antagonist
N.A.E.P.P	National asthma education and prevention program
P.E.F	Peak expiratory flow
P.F.T_S	Pulmonary function tests
R.O.C	Receiver operating characteristic
R.S.V	Respiratory syncytial virus
R5	Resistance at 5 hertz
R_{rs}	Respiratory resistance
S. L .I. T	Sublingual immunotherapy
T.h	T helper
T.R.A.K	Test for respiratory and asthma control in kids
X5	Reactance at 5 hertz
X_{rs}	Respiratory reactance
Zrs	Respiratory impedance

INTRODUCTION

Asthma is a disorder defined by its clinical, physiological, and pathological characteristic The predominant feature of the clinical history is episodic shortness of breath, particularly at night, often accompanied by cough ***Global Initiative for Asthma (GINA, 2009).***

Although there was little change in the overall prevalence of current wheeze, the percentage of children reported to have had asthma increased significantly, possibly reflecting greater awareness of this condition and/or changes in diagnostic practice. The increases in asthma symptom prevalence in Africa, Latin America and parts of Asia indicate that the global burden of asthma is continuing to rise, but the global prevalence differences are lessening ***(Pearce et al., 2007).***

In spite of the development and dissemination of international guidelines for the diagnosis and the treatment of asthma, during recent years, there is continuing evidence of poor control of asthma among children and adults ***(Rabe et al., 2004)***.

National and international guidelines clearly state that the aim of the asthma management is to achieve and maintain control. Controlled asthma is characterized by minimal or no symptoms during the day and at night, no

asthma attacks, no emergency visits to physicians or hospitals, minimal need for reliever medications, no limitations on physical activities and exercise, nearly normal lung function and minimal or no side effects from medication ***(GINA, 2008***).

Several validated instruments for assessing asthma control are currently available, each capturing multiple of asthma burden. Unlike severity scores which are clinician derived, most control scores are based on patient or parent completed survey ***(Juniper et al., 1999 and Nathan et al., 2004).***

It is reported that the Childhood Asthma Control Test (CACT) is accurate and reliable in assessing asthma control in children. It is suggested to be able to discriminate among various levels of control, even children defined as having poorly controlled disease by their physicians ***(Liu et al., 2007).***

AIM OF THE WORK

To evaluate the reliability and validity of the subjective (ACT) in asthmatic children compared to objective measurement of pulmonary function tests (PFTs) with impulse oscillation system (IOS).