Determination of Incidence and Severity of Bronchial Asthma among Children in Abu-Zaabal Area and its Psychological Effect and Relation to School Achievement

Thesis

Submitted in Fulfilment of the Requirements for the Ph.D. Degree in Childhood Studies

By

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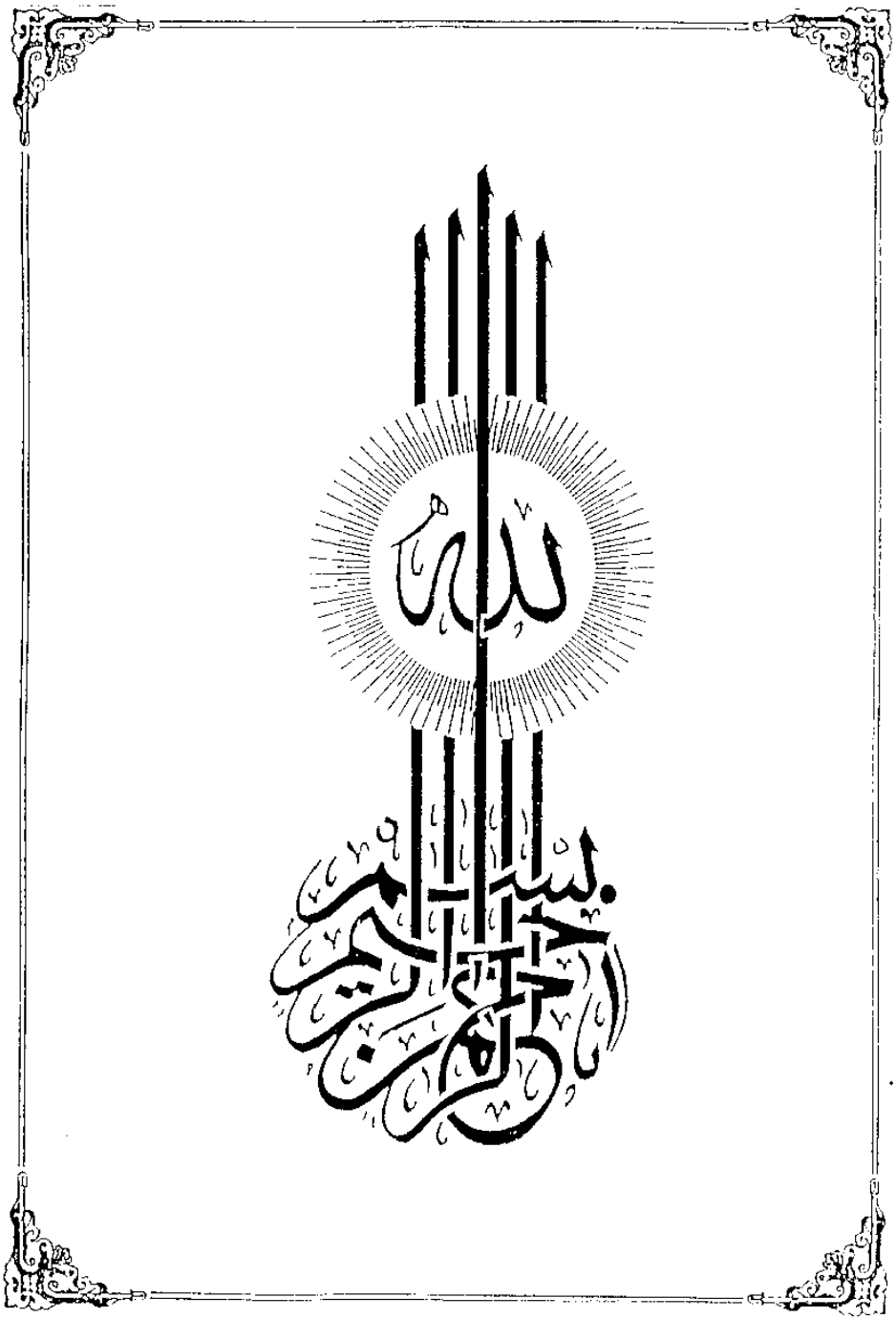

بسم الله الرحمن الرحيم

اهـــداء

الـى أمى الـحـبـيـبـة

قـطـرة صـغـيـرة من فـيـض عطائـهـا الـوافـر

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*Thanks to "**GOD**"*

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LIST OF ABBREVIATIONS

ABG	:	Arterial Blood gases.
A. Ch.	:	Acetyl choline .
A. S. A.	:	Acetyl salicylic acid.
A.T.Pase	:	Adenosine Triphosphatase.
B ±	:	Bronchodilator response
B.D.P	:	Beclomethasone dipropionate.
B.H.R	:	Bronchial hyper-reactivity.
B.P.	:	Blood Pressure.
B.U.D.	:	Budesonide.
CA.M.P	:	Cyclic Adenosine monophosphate.
C-Kinase:		Protein involved in the maintenance of the tonic phase of contraction.
C.P.K.	:	Creatinine Phosphokinase.
C.X.R.	:	Chest X RAY.
D.A.G.	:	Diacylglycerol, implicated in the events underlying the tonic phase of airway smooth muscle contraction.
D.L.C.O.	:	Diffuse capacity of the lung for carbon monoxide.
D.N.A.	:	Deoxyribonucleic acid.
D.S.C.G.	:	Disodium Cromoglycate.

E.C.P. : Eosinophil cationic protein.

E.D.T.A : Ethylene diamine tetraacetic acid.

E.I.A. : Exercise induced asthma.

E.I.B. : Exercise induced bronchospasm.

E.L.I.S.A. : Enzyme linked immunosorbent Assay .

E.R. : Emergency Room.

E.S.R. : Erythrocyte Sedmentation Rate.

F.E.F. : Forced expiratory flow.

$F.E.V._1$: Forced expiratory volume in 1 second.

F.V.C. : Forced vital capacity.

H.E.P.A. : High efficiency particulate air.

H.P.A. : Hypothalamo-Pituitary-Adrenal.

H.P.i. : History of present illness.

I.A.D.H.S : Inappropriate anti-diuretic hormone secretion.

I.C. : Inflammatory cells.

I.C.D.9 : 9 Revision of the International Classification of Diseases.

$I.P_3$: Inositol triphosphate, responsible for releasing Ca^{+2} from inbracelluar stores for initial tension development.

$I.P_4$	:	Inositol tetraphosphate formed from IP_3 by IP_3 kinase, responsible for opening plasma laminal ion channels, so permitting Ca influx needed to maintain muscle tension.
L.D.H.	:	Lactic acid dehydrogenase .
M.D.I	:	Metered dose inhaler.
M.M.D.	:	Mass median diameter.
N.A.D.	:	Noreadrenaline.
N.A.N.C.	:	Non adrenergic non cholinergic.
N.S.B.H.	:	Non specific bronchial hyperresponsiveness.
P.A.F.	:	Platelet activating factor.
P.E.F.R.	:	Peak expiratory flow rate.
$P.G.E_2$	:	Type of prostaglandins.
$P.G.F_{2\alpha}$	:	Type of prostaglandins.
P.I.	:	Phosphoinositidase needed to form IP3 in response to agonist.
R.A.S.T.	:	Radioallergosorbent test.
R.N.A.	:	Ribonucleic acid.
R.S.V.	:	Respiratory Syncytial virus.
R.V.	:	Residual volume

S.C.G : Sodium cromoglycate.

S.G.O.T : Serum glutamic oxaloacetic transaminase.

S.R. : Sarcoplasmine reticulum (intracellular stores of Ca^{+2}).

T.L.C. : Total lung capacity .

V.I.P. : Vasoactive intestinal peptide.

Introduction and

Aim of the Work

INTRODUCTION AND AIM OF THE WORK

Asthma is the most common chronic illness in childhood (Jones, 1993). Moreover, there are consistent findings from different-data sources suggest that asthma in childhood may have become more common, more severe or a combination of both (Taylor and Newacheck, 1992).

Public awareness and concern about the health effects of outdoor air pollution is increasing.

The aim of the present work is to:

1. Study the prevalence of bronchial asthma among school children aged from 6 to 15 years in Abu Zaabal area, in order to determine the prevalence of this disease in different regions of our country and to find out if there is any relation between the prevalence of bronchial asthma in this area and the industrial atmosphere.

2. Study the reflection of bronchial asthma on school attendance, educational achievement and psychological impact.

Review of Literature

HISTORICAL PERSPECTIVE

The word asthma (Greak azein means breath hard) has retained its meaning intact through the centuries, although the pathogenesis of the condition is not fully understood (Kuzemko, 1987). References to the disorder were made by Hippocrates (460-370 B.C.), although it remained for Aretaeus in the 2nd century to provide a detailed description of asthma (Creer, 1982). In a treatise on asthma, Tractus Contra Passionem Asthmatis, Moses Maimonides in the 12th century summarized the clinical features of the disorder and described individual differences that occurred in the treatment of asthma (Muntner, 1963).

Sir John Floyer (1698), in his treatise of the Asthma used the term in its general sense but confined himself largely to discuss the episodic type from which he himself suffered (Sakula, 1984). By the last century, another famous book by an asthma sufferer, Henry Hyde Salter on asthma, its pathology and treatment, it was used specifically to describe this type of breathlessness (Sakula, 1985).

In 1920 Webster's dictionary, defined asthma in more details (Pride, 1992).

Despite early references to asthma, there remain sizable gaps in our twentieth century knowledge of asthma.