

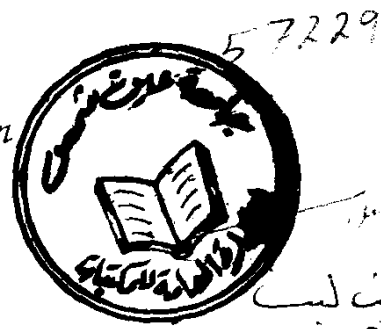
# SAFETY AND EFFICACY OF THEOPHYLLINE IN TREATMENT OF CHILDHOOD ASTHMA

A Thesis

Submitted for Partial Fulfilment of  
Master Degree in Pediatrics

Submitted by

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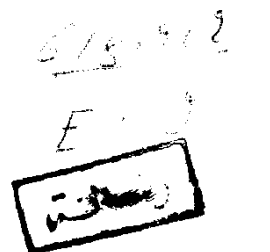


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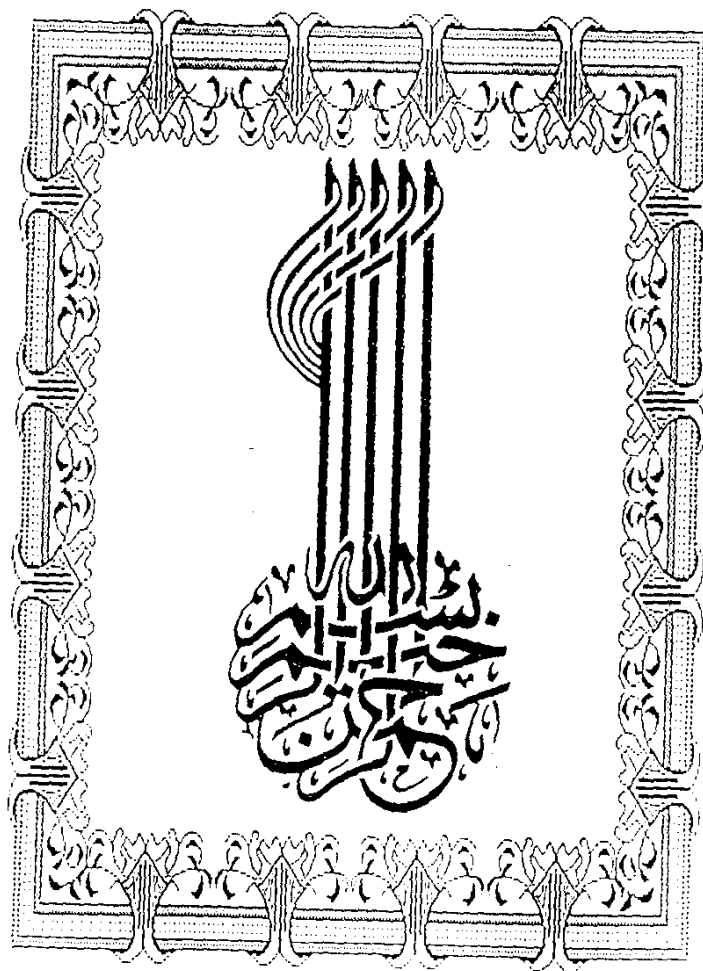
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1995







سورة التوبة ( آية ١٠٥ )

*"To those who believed in me, and those who didn't,  
the first provided me with love and support,  
the later gave me the motive and power  
to accomplish this work"*

*And last but not least*

*To my Parents  
with all the love in the world*

*To my Beloved Husband  
for his patience and encouragement*

## Acknowledgement

*I am greatly indepted to Professor Dr. "Karima Abd El- Khalek", Professor of Pediatrics Faculty of Medicine, Ain Shams University for giving me this precious opportunity of working under her supervision, her vast knowledge, wide experience and guidance added much to this work.*

*I am also indepted to Professor Dr. "Bahira Fahim", Head of Toxicology Department, Faculty of Medicine, Ain Shams University, I will always remeber her kind help, meticulous supervision and constructive criticism throughout this work.*

*I am deeply thankful and grateful to Dr. "Mahmoud Tarek". Lecuturer of Pediatrics, Faculty of Medicine, Ain Shams, University, for his sincere efforts, guidance and generous assistance while conducting this work.*

*Eman Salem.*

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### **LIST OF ABBREVIATIONS**

<b>ATP</b>	Adenosine triphosphate
<b>BHR</b>	Bronchial hyperresponsiveness
<b>BLS</b>	Borderline significance
<b>C-AMP</b>	Cyclic adenosine monophosphate
<b>CNS</b>	Central nervous system
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>COPD</b>	Chronic obstructive pulmonary disease
<b>F</b>	Female
<b>FEV</b>	Forced expiratory volume
<b>FVC</b>	Forced vital capacity
<b>GIT</b>	Gastro-intestinal tract
<b>IgE</b>	Immunoglobulin E
<b>K<sup>+</sup></b>	Pottasium
<b>Lts</b>	Leukotriens
<b>M</b>	Male
<b>NS</b>	Not significant
<b>PAF</b>	Platlet activating factor
<b>PEFR</b>	Peak expiratory flow rate
<b>PRIST</b>	Paper radio immuno sorbent test
<b>RAST</b>	Radioallergosorbent test
<b>RC</b>	Respiratory centre
<b>SD</b>	Standard deviation
<b>STC</b>	Serum theophylline concentration.
<b>TLC</b>	Total leucocytic count
<b>VC</b>	Vital capacity

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# ***INTRODUCTION***

## *INTRODUCTION*

Bronchial asthma is the most common lung disease in children and one of the leading causes of emergency room visits and hospital admissions. Acute episodes of asthma disrupt the lives of children at home and at school (Hill, 1989).

Asthma is a condition characterized by acute attacks of shortness of breath and wheezing associated with at least partially reversible airway obstruction (Bierman and Pearlman, 1990). This airway obstruction is believed to be caused by allergic inflammation leading to mucosal infiltration and edema with mucus hypersecretion combined with either primary or secondary smooth muscle hypertrophy and bronchial hyperactivity (Godfrey, 1990).

The availability of more and better medications for asthma contrasts with the reports of an increasing frequency of hospitalization and fatalities (Weinberger, 1989).

Theophylline, the well known bronchodilator, despite its potential for causing GIT and CNS side effects, is still the major drug used in the acute care setting, its major use is in daily continuous prophylaxis against events triggered by either allergic or

continuous prophylaxis against events triggered by either allergic or non-allergic factors (Rooklin, 1989).

Theophylline is one of the various xanthine bronchodilators. It is one of the alkaloids that occur naturally in plants, e.g. coffee, tea, cocoa. Chemical structure shows that theophylline is methylated xanthine derivative (El-Hawary et al 1988).