Follow-up Study of the Dietary Intake, Anthropometric Measurements, and Blood Pressure in Children Born to Women in the Manawatu Pregnancy Study.

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ENTESAR AL-SHAMI

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PART I: ETHICS IN HUMAN RESEARCH

	Table of Content	ii
	List of Tables	iv
	General Introduction	v
1.0	Objectives	1
2.0	The Development of Codes of Ethics for Human Research	1
2.1	Historical Context	2
2.1.1	The Nuremberg Code	4
2.1.2	The Declaration of Helsinki	5
2.2	Development of Ethical Principles in Research in Various Countries	5
2.2.1	Statement on Human Experimentation in Australia	5
2.2.2	Belmont Report in the United States	6
2.2.3	Royal College of Physicians in the United Kingdom	7
2.2.4	Health Research Council Act in New Zealand	8
2.3	Amendments to the Declaration of Helsinki	9
2.4	Children and Research	11
2.5	Ethics Committees	12
3.0	A comparison of the Approach in New Zealand and Kuwait Institutions to Ethics in Human Research	14
3.1	Application of Ethical Principles in New Zealand	14
3.2	Application of the Principles in Kuwait	14

3.3	Differences in the Procedures of Granting an Ethical Approval Between New Zealand and Kuwait	17
4.0	Development of a Research proposal to Ethics Committees in New Zealand	19
5.0	References	21
	Appendix One	25

PART II: PILOT FOR A FOLLOW-UP STUDY TO INVESTIGATE THE RELATIONSHIP BETWEEN DIET AND THE INCIDENCE OF ATOPIC DISEASE IN THE CHILD, AND MATERNAL AND CHILD BLOOD PRESSURES.

1.0	Background	46
2.0	Objectives of the Pilot Study	47
3.0	Introduction	48
3.1	Relationship Between Atopic Diseases, Maternal Diet During Pregnancy, Early childhood Diet and Growth	48
3.1.1	Atopic Diseases- Definitions	48
3.1.2	Bronchial Asthma	49
3.1.3	Incidence	50
3.1.4	Etiology	51
3.2	Children and Blood Pressure	57
3.2.1	Hypertension in Children	61
3.2.2	Familial Factors in Hypertension	63
3.2.3	Relationship Between Blood Pressure and Birthweight	64

3.2.4	Diet and Blood Pressure	67
3.2.5	Body Size and Blood Pressure	68
3.2.6	Treatment of Hypertension in Children and Adolescents	69
4.0	Methods	70
4.1	Subjects	70
4.2	Anthropometry	70
4.3	Blood Pressure	71
4.4	Assessments of Dietary Intake	72
4.5	Questionnaire	73
4.6	Analysis of Results	73
5.0	Results	74
5.1	Anthropometric Measurement	74
5.2	Dietary Intake of the Children in the Sample	75
5.3	Asthma	77
5.4	Blood Pressure	82
6.0	Discussion of Results	85
7.0	Suggestions	89
8.0	Summary	93
9.0	References	94
	Appendix Two	104

LIST OF TABLES

3.2a Blood pressure levels for the 90th and 95th percentile of systolic blood pressure for boys aged 1 to 10 years by percentile of height 59

3.2b Blood pressure levels for the 90th and 95th percentile of diastolic blood pressure for boys aged 1 to 10 years by percentile of height 59

3.2c Blood pressure levels for the 90th and 95th percentile of systolic blood pressure for girls aged 1 to 10 years by percentile of height 60

3.2d Blood pressure levels for the 90th and 95th percentile of diastolic blood pressure for girls aged 1 to 10 years by percentile of height. 60

3.2e Causes of hypertension in children and adolescents. 62

5.1a Anthropometric description of children in the sample (n=30). 74

5.2a The mean intake of macronutrients of children in the sample (n=30). 76

5.2b Intake of selected micronutrients of children in the study (n=30) 76

5.3a The mean ranks of head circumference at birth, birthweight in asthmatic and non-asthmatic children. 77

5.3b Test of significance of the relationship between head circumference at birth and asthma. 78

5.3c Major nutrient intake in asthmatic and non-asthmatic 78

5.3d Mean ranks of the intake of some micronutrients in asthmatic and non-asthmatic children. 79

5.3e Tests of significance of intake of selected micronutrients in asthmatic children. 80

5.3f Mean of anthropometric measurements of asthmatic and non-asthmatic children. 81

5.3g Mean ranks of current weight and height in asthmatic and non-asthmatic children. 81

5.3h Test of significance of relationship between asthma and body weight and height. 82

5.4a The characteristic of blood pressure of the population in the study. 82

5.4b Correlation between mother's and child's systolic blood pressure. 83

5.4c Correlation between mother's and child's diastolic blood pressure. 83

5.4d Correlation between child's birthweight and systolic blood pressure. 84

5.4e Correlation between child's birthweight and diastolic blood pressure. 84

GENERAL INTRODUCTION

When the proposal of the pilot study presented in this thesis was finally formulated, one of the first and important requirements was to obtain approval from accredited ethics committees. This proved to be a long and demanding process, but at the same time an interesting and useful experience. It was also somehow different from what was previously experienced in Kuwait, the researcher's home country. That was how the idea of presenting this thesis in two parts came into being.

In the first part, the development of ethics codes and ethics committees was reviewed, a comparison of the process to obtain an ethical approval in New Zealand and in Kuwait was made, and the proposals presented to Massey University Human Ethics Committee (MUHEC) and to Manawatu-Whanganui Committee (MWEC) were outlined.

Bioethics is a young discipline; the term "medical ethics" was first used at the beginning of the 19th century. However, codes of ethics of human research were only introduced towards the end of the first half of the 20th century. Hectic debates over these codes took place during the second half of the 20th century. On one side, there were growing concerns for the rights and safety of research participants, physically, psychologically and culturally, and on the other there were fears that scientific merits and benefits might be eroded by the limitations that research bioethics may enforce. These debates have

resulted in amendments and changes in ethics codes, changes that probably will continue to develop during the 21st century.

One of the difficult issues raised was research with children and other vulnerable groups. Biomedical research is an important and sociably desirable undertaking; most of the research that involves children cannot be performed on adults, yet research with children must proceed only when the rights and welfare of the participants are carefully observed, including their participation in the decision to take part when they are able to.

In the Pilot Study, which comprises the second part of this thesis, thirty mothers and their children were investigated. All participants were residents of Palmerston North City. The mothers participating in this Pilot Study had earlier been participants in a study that took place in the Manawatu area in the early nineties and which was completed in 1996. The children were those with whom the mothers were pregnant at the time of the earlier study. The Pilot Study was considered to be a follow-up upon that earlier study.

The Pilot Study aimed at investigating the relationship of atopic diseases, particularly bronchial asthma and early childhood diet and growth. The prevalence and severity of asthma has been increasing over the past few decades, particularly in urban industrialized areas. This increase is thought to be due to changing environmental factors. Smoking, particularly maternal smoking, and pollution are thought to be major contributing factors. Nutritional and dietary factors have lately received greater attention. Certain foods may

provoke asthma due to their "allergenic" properties; however, dietary deficiency of certain nutrients, specifically antioxidants, is thought to play an important role in the pathogenesis of asthma. This hypothesis was investigated in the Pilot Study.

The factors that may influence blood pressure in children were also investigated. Although the prevalence of hypertension is far lower in children than in adults, essential hypertension appears to have its onset during the first two decades of life. The identification of an at-risk-population before they develop hypertension may have profound benefits, since even small decrements in blood pressure may have substantial effects on hypertension-related morbidity and mortality. Birth weight has been linked to the development of hypertension; defining both systolic and diastolic blood pressure of the participant children and relating them to birthweight was an important part of the study.

Familial factors are recognized to influence not only the development of hypertension but also the level of blood pressure in an individual; maternal blood pressure in particular is thought to be closely related to that of her offspring. This relationship between maternal blood pressure and that of her child was also investigated.

The importance of defining these relationships is to identify children who are at risk for developing hypertension in their early life and thus planning intervention and follow-up strategies before the onset of the disease.