DIETARY INTAKE AND ANTHROPOMETRIC MEASUREMENTS OF NEWLY ARRIVED AND LONGER RESIDENT MAINLAND CHINESE WOMEN IN AUCKLAND

A thesis presented in partial fulfillment of the requirements for the degree of Master of Science in Nutritional Science at Massey University, Albany, New Zealand.

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Objective: To produce baseline data on the food consumption patterns, dietary intakes and anthropometric measurements of Mainland Chinese women living in Auckland and reveal any changes in these measurements after immigration. The impacts on health of dietary change were assessed.

Subjects: Fifty-five subjects originating from Mainland China, aged between 20 to 45 years, with 25 newly arrived (having lived in New Zealand for less than two years) in the 2-year group and 30 longer resident Chinese (having lived in New Zealand for more than four years) in the 4-year group.

Methods: Data collection included a socio-economic questionnaire, anthropometric measurements and dietary intake record. Anthropometric measurements included body weight, height, skinfolds, waist circumference, hip circumference and blood pressure. BMI and Waist/Hip ratio were also calculated. A single 24-hour recall and two days of weighed diet records were used to assess dietary intake.

Results: All the mean anthropometric measurements were higher in the 4-year group than in the 2-year group. Except for the differences of waist and hip circumference, all differences did not achieve statistical significance. Study subjects had lower BMI levels than New Zealand women and their Mainland Chinese counterparts. According to the New Zealand classification, study subjects had a lower prevalence of overweight (13%), but a higher prevalence of W/H ratio excess than that in New Zealand women (49%, 25% respectively). The study subjects had a better blood pressure profile than New Zealand women. More than 90% of the subjects fell into the normal blood pressure range. None of the subjects had high blood pressure.

In this study, there were no significant differences in nutrient intake between the two study groups. Median energy of all the subjects was 6965kJ, protein 71.2g (with the protein energy ratio of 17%), lipid 68.6g (with the lipid energy ratio of 36.8%),
carbohydrate 182g (with the carbohydrate energy ratio of 43.9%), fiber 16.2g, cholesterol 324g, total vitamin A 541ug, calcium 488mg and iron 12.5mg per day. Alcohol intake was very low. Excessive fat/energy ratio, low carbohydrate/energy ratio, inadequate intakes of calcium, and high intakes of sodium were the main nutritional problems in the study subjects. Study subjects had a lower sodium intake, but higher calcium and fiber intake than their Chinese counterparts, whereas, calcium intakes of the study subjects were much lower than that of New Zealand women. The fatty acid profile was better than New Zealand women, with higher polyunsaturated fatty acid and lower saturated fatty acid intakes. Iron nutritional status requires further research.

In the present study, food patterns in the 2-year group were similar with those in the 4-year group, except for the lower consumption of rice and its products in the 2-year group. Compared to the Chinese counterparts, study subjects ate less cereal, vegetables, salted vegetables, organ meats and oils, but more legume, fruits, poultry and dairy food.

**Conclusion:** It is important for migrant Chinese to maintain their traditional dietary habits. Furthermore, there is a need to develop obesity indicators that are appropriate for different races and to monitor the trend of dietary intake and anthropometric change in this population with time.
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# TABLE OF CONTENTS

ABSTRACT .................................................................................. I
ACKNOWLEDGEMENTS .......................................................... III
TABLE OF CONTENTS ............................................................. IV
LIST OF TABLES ........................................................................ VIII
LIST OF FIGURES ....................................................................... XI
LIST OF APPENDICES ............................................................ XII

CHAPTER 1: INTRODUCTION ..................................................... 1

CHAPTER 2: LITERATURE REVIEW ............................................. 2
  2.1 Food Habits in China ......................................................... 2
     2.11 Foodstuffs .................................................................. 2
     2.12 Beverages .................................................................. 3
     2.13 Meal Patterns ............................................................. 4
     2.14 Cooking Methods ....................................................... 4
  2.2 Dietary Patterns of Chinese Living in China ......................... 5
  2.3 Nutritional Status of Chinese and Chinese Women in China .... 7
  2.4 Anthropometry of Chinese Women Living in China .............. 8
  2.5 The Incidence of Cardiovascular Disease and Cancer Mortality in China and in Western Countries .......... 9
  2.6 Reasons for The Lower Mortality Rates of Coronary Heart Disease in China ..................................................... 10
  2.7 The Nutrition Transition in China ....................................... 12
  2.8 Dietary Patterns and Body Measurements in Immigrant Chinese ................................................................. 13
  2.9 Migrant Chinese Populations Experience an Increased Risk of Coronary Heart Disease ....................................... 17
  2.10 Chinese Immigration Status in New Zealand ....................... 19
  2.11 Dietary Surveys on New Zealand Chinese ......................... 20
  2.12 Aims of the Study ........................................................... 20
CHAPTER 3: METHODS

3.1 Human Ethics Application

3.2 Subject Recruitment
   3.21 The Eligibility Criteria for Volunteers
   3.22 Study Publicity

3.3 Data Collection Programme
   3.31 Visit One
   3.32 Between Visit One and Visit Two
   3.33 Visit Two

3.4 Questionnaires

3.5 Assessment of Dietary Intake
   3.51 Twenty-four-hour Recall
   3.52 Weighed Diet Record
   3.53 Assessment Using the 24-hour Recall and Weighed Diet Record

3.6 Anthropometric Measurements
   3.61 Height
   3.62 Weight
   3.63 Skinfolds
   3.64 Body Circumference
   3.65 Blood Pressure

3.7 Data Processing
   3.71 Questionnaire Data Coding
   3.72 Anthropometry Data
   3.73 Dietary Intake Data
   3.74 Data Entry

3.8 Statistical Analysis
6.2 Comparison of Anthropometry Characteristics 92
6.3 Comparison of Nutrient Intakes 97
  6.31 Soluble Vitamins 97
  6.32 Insoluble Vitamins 98
  6.33 Minerals 98
  6.34 Macronutrients and Energy Sources 100
6.4 Comparison of Food Consumption Patterns 102
6.5 Relationships between Nutrient Intake, Body Measurements and Extraneous Factors 103

CHAPTER 7. CONCLUSION 113

REFERENCES 115
LIST OF TABLES

Table 2.1 China's Production and Consumption of Selected Agricultural Products in 1986 22
Table 2.2 Food Consumption Pattern in Urban Areas of China 23
Table 2.3 Food and Nutrient Intakes of Urban Chinese as Percentage of Total Energy 24
Table 2.4 Nutrient Intake as a Percentage of the Chinese Recommended Dietary Allowances in Urban China 25
Table 2.5 Nutrient Intakes by Chinese Women in Urban China 26
Table 2.6 Height and Weight of Urban Females in China by Age 27
Table 2.7 Indicators of the Plant and Animal Food Content of Chinese and American Diets 27
Table 2.8 Dietary Intake of Energy, Protein and Fat in Urban China between 1978-1988 28
Table 2.9 Percentage of Individuals in Different Body Mass Index Categories in Chinese Studies 29
Table 2.10 Percentages of Study Population in Different Weight Categories, China Health and Nutrition Survey, 1989 and 1991 (Women) 29
Table 4.1 Characteristics of Study Subjects by Group 51
Table 4.2 Socioeconomic Status of Study Subjects by Group 52
Table 4.3 Life Style Behavior of the Study Subjects by Group 55
Table 4.4 Anthropometric Characteristics of the Study Subjects by Group 56
Table 4.5 Mean of Anthropometric Characteristics of the Study Subjects by Region of Origin 57
Table 4.6 Study Subjects in Different Weight Categories (New Zealand Classification) 58
Table 4.7 Study Subjects in Different Weight Categories (Chinese Classification) 58
<table>
<thead>
<tr>
<th>Table 6.6</th>
<th>Vitamin and Mineral Intakes in Different Surveys</th>
<th>108</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 6.7</td>
<td>Energy Sources and Macronutrient Intakes in Different Surveys</td>
<td>109</td>
</tr>
<tr>
<td>Table 6.8</td>
<td>Comparison of Lipid Intakes between Chinese Women and New Zealand Women</td>
<td>110</td>
</tr>
<tr>
<td>Table 6.9</td>
<td>Food Consumption Patterns of Mainland Chinese and Study Subjects</td>
<td>111</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Fig 4.1  Age Distribution of the Study Subjects 70
Fig 4.2  Weight Distribution of the Study Subjects 71
Fig 4.3  Height Distribution of the Study Subjects 71
Fig 4.4  Triceps Skinfold Distribution of the Study Subjects 72
Fig 4.5  Biceps Skinfold Distribution of the Study Subjects 72
Fig 4.6  Subscapular Skinfold Distribution of the Study Subjects 73
Fig 4.7  Waist Circumference Distribution of the Study Subjects 73
Fig 4.8  Hip Circumference Distribution of the Study Subjects 74
Fig 4.9  Distribution of Systolic Blood Pressure of the Study Subjects 74
Fig 4.10 Distribution of Diastolic Blood Pressure of the Study Subjects 75
Fig 6.1  Energy Sources 112
Fig 6.2  Intake of Fatty Acid as a Percentage of Energy in study subjects and New Zealand Women 112
LIST OF APPENDICES

Appendix 1  Human Ethics Application 131
Appendix 2  First Reply from Human Ethics Committee 138
Appendix 3  Second Reply from Human Ethics Committee 139
Appendix 4  A Letter to Programme Manager of Radio AM 990 for Volunteer Required 140
Appendix 5  A Description of the Study to Radio AM 990 for Volunteer Required (In Chinese) 141
Appendix 6  A Reply from Triangle TV for Volunteer Required 142
Appendix 7  A Description of the Study to Triangle TV for Volunteer Required 143
Appendix 8  An Advertisement for Volunteer Required in a Chinese Newspaper (In Chinese) 144
Appendix 9  Concise Outline of the Study for Volunteer Required (In English) 145
Appendix 10  Concise Outline of the Study for Volunteer Required (In Chinese) 147
Appendix 11  Detailed Description of the Study for Volunteer Required (In English) 149
Appendix 12  Detailed Description of the Study for Volunteer Required (In Chinese) 153
Appendix 13  Consent Form (In English) 156
Appendix 14  Consent Form (In Chinese) 158
Appendix 15  Questionnaire (General Background) (In English) 160
Appendix 16  Questionnaire (General Background) (In Chinese) 169
Appendix 17  First Interview Record (Including a 24-hour Recall and Body Measurement Records) 176
Appendix 18  Two-day Weighed Diet Record (In English) 180
Appendix 19  Two-day Weighed Diet Record (In Chinese) 182

XII