



CHAPTER I

INTRODUCTION

1.1. BACKGROUNDS AND RATIONALE

Obesity has reached epidemic proportions in the world. Globally, there are more than 1 billion overweight adults and at least 300 million of them are clinically obese. It is a major contributor to the global burden of chronic disease and disability (WHO, 2003). Obesity and overweight are associated with increasing mortality, type II diabetes, cardiovascular diseases, hypertension and breast cancer. The health consequence ranges from increasing risk of premature deaths to serious chronic conditions that reduce the over all quality of life (WHO, 1999).

Childhood obesity and overweight are major public health problem in most developed countries and are on the rise in many developing countries. An estimated 17.6 million children under five years of age are overweight worldwide. In the USA, the prevalence of both overweight and obesity are 61% and 14% in adults and children respectively. The percentages of overweight in children and adolescents have more than doubled since 1970s. Obesity is the seventh leading cause of death in the USA (Wellman, 2002).

Epidemiological transition is the shift from “traditional illness” to “modern illness”. Traditional illness like communicable diseases and underweight tend to be a

greater problem in some developing countries. Modern illness such as heart disease, stroke, obesity and hypertension etc. tend to be the greater problem in developed countries. However, in developing countries the prevalence of both traditional illness and modern illness are increasing. This has been termed as “double burden” of disease. Overweight and underweight coexist in some developing countries such as China, Indonesia and others (WHO, 1999).

According to WHO 1999, there is a transition in the Western Pacific Region, from a high prevalence of infectious diseases, protein energy malnutrition and micronutrient deficiencies, to high prevalence of chronic non-communicable diseases (CNCDS) and overweight. Chronic non-communicable diseases are now among major causes of death in most countries of the region. Cardiovascular Diseases (CVDs) are one of the leading causes of deaths, accounting for approximately 3 million deaths each year. The prevalence of non-communicable diseases are increasing rapidly in these countries because of changes in social, economic, and demographic transition, as well as, changes in diet and life styles, especially in the newly industrialized countries. Life style shifts, such as the presence of increasing amount of saturated fat and energy (calories) in diet have led to higher prevalence of overweight and chronic non-communicable diseases.

Some countries, such as China and Malaysia who are under-going nutritional transition, face with both the old problem of nutrient deficiencies and the new problem of over nutrition (Khorn, 1997). In China, chronic under-nutrition still exists in preschool children. In 1992, the prevalence of under-nutrition was 2-13 % for urban preschools and 15-30.5 for rural preschoolers, while prevalence of overweight in urban children was 3.3

% in 1992 and 6.7 % in 1995. As the diet has become more westernized (including increased consumption of foods of animal origin), national average fat intake has increased from 18% in 1992 to 22 % in 1995 and from 18% -25% respectively, in the same years, in urban areas (WHO, 1999).

In Indonesia, the prevalence of moderate and severe malnutrition has declined but the prevalence of overweight has been increasing slowly, and more so in urban than in rural areas. There is also evidence that there are increasing numbers of overweight in urban population. An epidemiological transition is likely to occur very soon in China, Indonesia and Malaysia (WHO, 1999).

In Thailand, the prevalence of obesity in 5-12 years old rose from 12.2 % to 15.5% in just 2 years (WHO 2003). Langendijk G. et al. (2003) conducted a survey in KhonKaen, northeast in Thailand. The prevalence of childhood obesity aged 7-12 years was 10.8%. As in other countries of the world, obesity has become a health problem for children and adolescent in Thailand, especially, in big cities such as Bangkok and KhonKaen. In several school surveys, the prevalence of obese children aged 5 –15 years varied from 20% to 30 % in private school during the last decade (Likitmas Kul et al.)

Similar to other developing countries, Vietnam is also going through epidemiological transition phase. The economy in Viet Nam is increasing rapidly; urbanization process in Vietnam is growing fast with a large flow of immigrants to cities followed by changes in food supply mechanism and dietary habits.

Vietnam has been under economic reform since 1989, and making a steady transition to market economy. Vietnam has achieved great successes with its reform program. Real GDP growth has been averaging 7 percent annually and is increasing rapidly. Income level of households is higher than before. Urbanization in 1988 was 10.3 million (29%) and 18.8 million (34%) in 2000. The average annual % growth (GDP) was 4.6% in 1980-1990 period; and 7.9% in the period 1990-2000 (World Bank, World Development Indicators, 2002).

With progress in the country's reform and economic programs, food supply in the macro-scale has improved. The diet of Vietnamese people has remarkably changed. Animal source of food, fat/oil, and ripe fruit intake increased significantly. Now the Vietnamese intake has changed from less animal-based food like cereals, tuber, and vegetables to a diet with increased meat, eggs, milk, fat, and sugar intake (National Institute of Nutrition, 2000).

Presently, traditional foods such as sesame, peanut, tofu, and even green vegetables and roots have not been given considerable attention in the diet. A large part of urban population has changed their dietary habits, to fast food and sweet drink. And increased animal-source of food (meat, fat) and refined carbohydrates (sugar, sweets etc.). This may be related to increase in income.

At the same time, physical activities have also changed. Motorcycle has replaced of bicycle as the major mean of transportation in the cities. The number of families with televisions have also increased, thus more time spent is on watching TV instead of physical activities. Dietary and lifestyle factors also play an important role in the increase

of chronic non-communicable diseases. Therefore, Vietnam faces both communicable diseases such as diarrhea, malaria etc. and non-communicable diseases such as hypertension, diabetes, overweight and obesity etc.

Until 1994, overweight and obesity was not a public health problem in Vietnam. There have continuously been reports on the overweight and obesity situation since 1996. A survey conducted in 1996 by Nguyen H. showed that the prevalence of overweight in children under 5 year olds in Ho Chi Minh city was 2%. Some studies on overweight and obesity in Viet Nam were conducted in others big cities such as Hanoi, Ho Chi Minh, Haiphong, and Nhatrang. The resulted showed that prevalence of overweight and obesity have been increasing over time.

In Hanoi prevalence of obesity in primary school children was 2.6% in 1995 and 4.7% in 2000 (Do K.L. 1996-2000) while in adults, a study of Do K.L. et al. (1997) in 50-59 years old people in 2 central sub-districts in Hanoi showed that the overweight prevalence in males was 15.5% and females was 19%. In Haiphong prevalence of overweight in primary school children was 9% of which obesity was 6.2% in children (Nguyen T.T.H. 2000). In Ho Chi Minh city, prevalence of overweight in children in primary school was 10.2% in 2000 (Tran T.H.L. 1996-2001). No reports are available on the status of overweight and obesity among rural children.

In national scientific symposium (2002), Ha Huy Khoi (Director of National Institute of Nutrition in Vietnam) has confirmed that Vietnam has been approaching the transition in nutrition. In addition to malnutrition burden, many recent studies have shown that a number of chronic diseases are on the rise at a fast pace. The prevalence of

overweight in children 6-11 year olds or adults (40-50 year olds) was higher than other age groups (10%).

Most of previous studies have been conducted in large urban cities of Vietnam. There is little information regarding the prevalence of overweight and obesity in children in smaller pre-urban cities like Thainguyen city where epidemiological transition nutrition may also be occurring. Therefore, this study focuses on identifying prevalence and related factors of overweight and obesity of primary schoolchildren in Thainguyen city in Vietnam. This study can also guide the authorities to develop prevention programs and promotion activities in the city in future.

1.2. RESEARCH QUESTIONS

(1) What is the prevalence of obesity and overweight of primary school children aged 9-10 years in Thainguyen city, Vietnam?

(2) What are the determinants of overweight and obesity in primary school children aged 9-10 years in Thainguyen city, Vietnam?

1.3. OBJECTIVES:

GENERAL OBJECTIVE:

To assess the situation of obesity and overweight of primary school children aged 9-10 years, in Thainguyen city, Vietnam

SPECIFIC OBJECTIVES:

(1). To determine the prevalence of obesity and overweight of primary school children aged 9-10 years, in Thainguyen city, Vietnam

(2). To describe the characteristics of family (mother's education, age, family size, family income, mother's occupation, extended or nuclear family, BMI of parents), and characteristics of school children (children's age, gender, and position in the family)

(3). To assess physical activities of school children and their knowledge, attitude on nutrition and physical activity.

(4). To identify the relationships between overweight and obesity of school children and mothers' knowledge, attitude and practices.

(5). To identify the relationships between overweight and obese school children and mothers' education, family size, family income, mother's occupation, and BMI of parents.