

# Cuisine: the concept and its health and nutrition implications – a Hangzhou perspective

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Cuisine is an activity that meets human physical and psychological needs. With the development of civilization, cuisine is an important component of culture and includes the dietary profession. However, each nation or each area has its own characteristic cuisine. There are eight major styles of Chinese cuisine, Hangzhou style is an important part of Zhe style. It was divided into two branches named "Lake branch" and "Town branch". An ideal Chinese dish should satisfy in terms of colour, aroma, taste, shape, texture and sustenance. But nowadays, people pay more attention to other aspects of dishes than sustenance. It is estimated that food and beverages will cost up to 570 billion RMB (about US \$69 billion) in China this year. The incidence of chronic diseases also increases year after year. There are 40 million diabetic and 70 million obese persons in China. Hence it is important to make efforts to promote in-depth knowledge of cooking and nutrition.

**Key Words:** Hangzhou, cuisine, nutrition, chronic diseases, health.

## Introduction

Cuisine is the activity that processes food into edible products by some means to meet human physical and psychological needs. With the development of civilization, cuisine is an important component of culture associated with human health. Food has been essential for human survival since the beginning of mankind. From the age that people lived on animals and plants to the age people began to cook foods, cuisine has been an essential profession that is closely associated with human health, nutrition, illness and longevity, because of the improvement of wares, cooking methods, condiments and materials. Initially people ate for survival and were satisfied with it. Nowadays, eating is not just for hunger but also for health and enjoyment. People long for health from their diet, but unfortunately most of them know little about how to eat properly.

## Cuisine and food culture in Hangzhou

Cuisine is part of culture concerning food. Each country or area including Hangzhou has its characteristic cuisine. There are 6,368,100 people in Hangzhou, 3,870,100 down town,<sup>1</sup> and more than 6,500 restaurants, many of which have business areas over 10,000m<sup>2</sup>. Some are highly regarded throughout China, such as Louwailou, Zhangshengji, Kuyuanguan, Xinkaiyuan, Hongni, and Haoyanguang. Some have more than 500 staff and can seat 2000.<sup>2</sup> Famous restaurants may have branches, for example, Zhiweiguan has 13 branches in downtown Hangzhou, while Zhangshengji has branches in Shanghai, Beijing and Hong Kong. These restaurants have their own special dishes,

such as Dragon well shrimp kernel, Beggar's chicken, Old duck cooked with a Chinese pot, West Lake vinegar fish and Dongpo meat. Each dish has its own beautiful legend about its origin. The traditional and famous dish "Beggar's chicken" has more than 400 years history and is made by the Hangzhou style restaurant Louwailou. It is said that a beggar stole a chicken, but there was no boiler or cooking stove. So he sealed the chicken with clay and baked it in a simply constructed furnace. Then he broke open the cover after the chicken was cooked. The feathers came off with the clay immediately releasing a fragrant and delicious aroma.<sup>3</sup> "Beggar's chicken" is also known as "Beggar's virgin chicken" and "Beggar's eight treasures chicken", and has become a traditional and famous dish, because of its unique good taste.

Hangzhou cuisine is an important part of Zhe style, one of eight major Chinese styles. Classical Hangzhou cuisine is divided into "Lake branch" and "Town branch". Lake branch emphasizes fresh, living and tender materials, and is based on fish, shrimp and vegetables in season. Attention is paid to cutting skills. Lake branch is fresh and pure, and it includes the famous West Lake vinegar fish and Chuncai soup. The Town branch's main

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materials include meat and vegetables, it merges salty into fresh and has a reasonable price. Famous dishes include 'Fish head with tofu' and 'Bacon with spring bamboo shoot'.<sup>3</sup>

Dishes appeal to the senses through colour, aroma, taste, shape and sustenance. Almost all people enjoy food with an excellent match of ingredients. Sustenance means supplementing the body or enhancing nutrition. As early as 2000 years ago, Chinese scholars indicated that "corn is for sustenance, five kinds of fruit are assistant, five types of fowl are beneficiary and five kinds of vegetable are complementary"<sup>4</sup> - a very rational scientific theory. Balanced diet theory instructs people to eat with suitable nutrition in a simple way. However, most modern people know little about the principles of nutrition contributing to long life, let alone the relation of diet to diseases.

Cuisine at home is influenced by many factors, such as the place of birth, the number and occupations of family members and even the housewife's personal preference. Families with three members in Hangzhou cook simply, most choosing cleaned, prepared, packed or frozen food in supermarkets. For breakfast, milk, egg and bread are their common staples, but there are still some people who have a traditional Chinese breakfast. Supper is the most important for families, because everybody is home then, so they can eat in together in a free and relaxed manner. Although ingredients may number up to 10 to 18, most families cook a dish with two to three, for example, Tomato stir-fried with egg. A few families find it convenient to buy roast chicken or duck dipped in saline water as the major dish. In addition, they often add a vegetable dish and an egg soup. Two dishes with a soup is the favourite of most families. Housewives should choose the best ingredients and the best manner of cooking, both are important for family cuisine.<sup>5</sup>

The ingredients and cooking methods differ in restaurant from at home. In restaurant, people like ordering many dishes. They often order four to six cold dishes and six to eight hot ones for their family and a few friends. They chat when eating, so it will take about two hours to finish. People also like to have a drink with rich dishes. So the diet in restaurants does not meet a balanced standard because of excess protein, fat, alcohol and salt but too little carbohydrate intake.

### **Cuisine: its health and nutrition implications**

Prevalence rates of hypertension, hyperlipemia, hyperglycemia (diabetes mellitus), overweight (obesity), hyperuricemia (gout) are increasing year after year in China. Cardiovascular diseases have become the leading cause of death. The above-mentioned diseases not only result in ill-health but also put a heavy economic burden on families, the nation and society.

In Zhejiang province in the past three years, cardiovascular diseases have ranked first among chronic diseases which are closely related with the "five hyperts" - hypertension, hyperlipemia, hyperglycemia, overweight and hyperuricemia. All these are directly related to the ingredients of dishes and cooking methods. The three meals of those affected often have improper proportions of carbohydrate, protein, fat and vegetable fibre. In 1997 average intakes of cholesterol were 361.55 mg/day in an

urban population, with intakes exceeding 300mg/day in 54%.<sup>6</sup> Those surveyed showed that this population preferred fried, barbecued, pickled and junk foods and high sugar drinks. The fundamental reason is that many Chinese people now lack basic nutrition knowledge and misunderstand nutrition. These have led to soaring numbers of chronic diseases. Work stress and decreased exercise are other factors.

There are more than 40 million diabetics in China<sup>7</sup> with 200,000 in Hangzhou. In China the number is increasing at the rate of 3000 daily, totalling 1.2 million per year. This rate is surprising even globally. Almost 60% to 70% diabetics do not reach the recommended blood glucose level.<sup>8</sup> The situation of obesity is more and more serious too. There are 200 to 300 million overweight (Body mass index  $\geq 25$  -  $< 30$  kg/m<sup>2</sup>, BMI)<sup>9</sup> and over 70 million (some data show 30-40 million) obese persons (BMI  $\geq 30$ kg/m<sup>2</sup>) in China. One investigation of nutrition found the prevalence of overweight (BMI  $\geq 25$  -  $< 30$ kg/m<sup>2</sup>) was 14% in the 20 to 74 years-age group in 1992.<sup>10</sup> Another investigation in 1998 showed the prevalence of overweight was significantly higher in the north than in the south, and higher in populations in areas with well developed economies than in undeveloped areas. The prevalence was over 50% in some populations, even 60%.<sup>11</sup> Abdominal adiposity in women was more common than that of men; the prevalence was 36.7% (using waist hip ratio cut-offs), or 35% (using waist circumference cut-offs) in 1996 in Rongqi suburban area, Shunde city, Guangdong province, China, where the economy is growing rapidly.<sup>12</sup> Treatment is unsatisfactory, because obese persons ignore their doctor's advice. The same occurs with hypertension which has a national prevalence of 120 million. But the rates of awareness, treatment and control of hypertension were 56.3%, 26.8% and 4.4% respectively in urban, comparing to 40.3%, 17.5% and 2.6% respectively in the rural areas in a community-based survey of essential hypertension carried out in urban and rural areas involving 280,000 subjects.<sup>13</sup> Therefore, it is imperative to promote and improve prevention and control of hypertension in addition to diabetic mellitus and obesity, because these diseases are the major factors resulting in cardiovascular diseases.

Physical examination among over 6000 teachers and staff of Zhejiang University in 2003 found evidence of cardiovascular disease in 3311 (55.2%), endocrine and metabolic disease in 3087 (51.4%), benign tumours in 2097 (34.9%), and digestive tract disease in 1811 (30.2%). Work stress, sedentary life style, lack of physical excise and lack of basic nutrition knowledge have led to the soaring number of chronic diseases among this highly qualified intellectual group. Unfortunately, people have not attached importance to this social issue.

The medical cost of chronic diseases has become an important part of Chinese family budgets. In 2002, the total living expenditure per resident in Hangzhou was more than 9214 RMB, of which food was 3707 RMB, clothing 836 RMB, medicine and medical services 746 RMB.<sup>14</sup>

Another concern is child and adolescent obesity (BMI  $\geq 30$ kg/m<sup>2</sup>). With more and more chains of foreign fast-

food restaurants springing up in China, such as Kentucky, McDonald's and Pizza Hut, the rate of child and adolescent obesity in China is increasing yearly. A survey among 7 to 18 years-age group throughout China found the obesity rate of boys increased from 0.63% in 1985 to 6.66% in 2000, while that of girls increased from 0.60% to 3.52%. It is estimated that the obesity rates of boys and girls will reach 18.46% and 9.18% respectively by 2010.<sup>15</sup>

In addition, rates of hyperlipemia and fatty liver are increasing due to long term high fat intake and lack of exercise. The rates of anemia and hypertension are also high too. A survey conducted in 1998 from six cities in China showed that the rate of overweight among 3 to 6 years old children was 4.2% (Weight for Height Z Score >2, WHZ) and obesity was 1.7% (WHZ >3) respectively. The rate of anemia was 8.7% (10.1% for girls and 7.2% for boys).<sup>16</sup> Unfortunately, there were no data on hypertension. Another study found that potassium, calcium and magnesium were negatively associated with blood pressure. Supplementation of potassium and calcium as formed in cooking salt resulted a decreased blood pressure.<sup>17</sup>

In the past, family diet in Zhejiang mainly comprised carbohydrate and vegetables, moderate fat and protein. However, it has changed to a near Western pattern for some families, especially among some children and youth, where the pattern is high fat, sugar and energy, but low carbohydrate. Some children and youth, mainly urban, like eating deep-fried chicken legs in Western restaurants, up to four to six at a time. Some parents also like to have dinner in Western restaurants for convenience. Another problem is youth like night life, go to bed late so get up late, and to save time they often choose bread, milk, sandwich and instant noodle for breakfast, milk with egg is common. Breakfast shows the change from high carbohydrate to high protein and high fat.

A varied diet contributes to good health. Diet can nourish the body and cure disease, but also can cause poor-health. There are five types of eating philosophy, (1) eating with a wide variety of foods which can complement each other nutritionally; (2) eating with matched foods, that is to match staple food with potato and corn etc., to match meat with vegetables, to match foods with a cold nature with those with a hot nature; (3) eating well-done food which has been sterilized, is easily absorbed, and with enhanced taste; (4) eating in a controlled manner, that is, not to overeat; (5) eating to prevent and cure diseases.<sup>18</sup>

Traditionally food was divided into four groups, which include cold, cool, warm and hot.<sup>19</sup> For example, bamboo shoot is cold, pear is cool, mutton is warm and garlic is hot. Preferring a particular group is bad for health, so Chinese like cooking dishes composed of different groups of food. For example, hot food is matched with cold, warm food with cool. Crab is cold, so people like using hot ginger with it to prevent gastrointestinal function disorder.

### **Chinese national initiatives in the science of nutrition and health**

The problem of cooking and health, cooking and nutrition has attracted the attention of each department of the central government. The Chinese government issued relevant documents in 1997 and 2001.

On Dec.9<sup>th</sup>, 1997, the Plan of China Nutrition Activity authorized by the State Department was issued, having been formulated by the Hygiene Department, National Science and Technology Committee, Agriculture Department, and several others. It was the first of its kind released by State Department since liberation.<sup>20</sup> This No.45 Document released by State Department (1997) confirmed that over-nutrition or imbalanced diet led to an increasing number of chronic diseases, and it has become the main factor contributing to loss of working ability and death. More than 15,000 die of chronic diseases every day - more than 70% of total mortality.

On November 3<sup>rd</sup>, 2001, No.86 Document on the development program of China Food and Nutrition released by the State Department (2001) stated that it was essential to guarantee rational amount of food consumption, to improve scientific knowledge on nutrition of resident as well as their self-health care sense, to instruct resident orientation of food consumption, to elevate the social status of nutritionist, and gradually implement the nutritionist system in the public canteen of hospitals, kindergartens, schools, enterprises and institutes, as well as service sector.<sup>21</sup>

### **Guidelines for a balanced diet in China**

The standing board of the Chinese Nutrition Society passed the Guide of Diet for Chinese residents in 1977 - balanced diet, proper nutrition and improve health. The broad outline is as follows:

- (1) Varied food intake, with cereal as the staple.
- (2) More vegetable, fruit and potato intake.
- (3) Adequate milk, legume and legume product intake.
- (4) Proper quantity fish, egg, poultry and lean meat intake, and less fat and animal oils intake.
- (5) Keep a balance between diet and activity to maintain proper weight.
- (6) Low dietary salt intake.
- (7) Alcoholic drinks should be limited.
- (8) Take clean food, not spoiled.<sup>22</sup>

### **Conclusions**

With rapidly increasing chronic diseases in China, the health benefits of traditional Chinese cuisine should be emphasized, especially as developed in Zhejiang province. Globally, major efforts are needed to advocate in-depth knowledge of cooking and nutrition based on science to ensure a balanced diet, reasonable nutrition, and keeping fit in the pregnant and all age groups. Overall, the goal of the healthy cuisine is to reduce medical costs and to improve human health.

