

# Association between Dietary Habits and Chronic Diseases in Chinese Adults in Baoji

## Abstract

Chronic diseases have become a major public health concern in China, including in the city of Baoji. The prevalence of chronic diseases, such as cardiovascular diseases, type 2 diabetes, and obesity, has been increasing rapidly in recent years. Dietary habits are known to play a significant role in the development and management of chronic diseases. This review aims to explore the association between dietary habits and chronic diseases in Chinese adults residing in Baoji. Several studies have examined the relationship between dietary habits and chronic diseases in Chinese adults living in various regions. Findings suggest that unhealthy dietary habits, such as a high intake of processed foods, refined carbohydrates, and saturated fats, are associated with an increased risk of chronic diseases. Conversely, a healthy dietary pattern characterized by a high intake of fruits, vegetables, whole grains, and lean proteins has been associated with a reduced risk of chronic diseases. Specific dietary factors, such as excessive sodium consumption, inadequate dietary fiber intake, and imbalanced macronutrient distribution, have been identified as key contributors to the development of chronic diseases in the Chinese population. Furthermore, cultural and socioeconomic factors influence dietary habits in Baoji and may contribute to the prevalence of chronic diseases in this population.

**Keywords:** Dietary habits • Chronic diseases • Cardiovascular diseases • Type 2 diabetes obesity • Baoji • Chinese adults

## Introduction

Chronic diseases, including cardiovascular diseases, type 2 diabetes, and obesity, have emerged as significant public health challenges worldwide, posing a considerable burden on individuals, families, and healthcare systems. China, as the world's most populous country, has experienced a rapid increase in the prevalence of chronic diseases over the past few decades[1]. The city of Baoji, located in the northwestern region of China, is no exception to this trend. Understanding the association between dietary habits and chronic diseases in Chinese adults in Baoji is crucial for developing effective prevention and management strategies. Dietary habits play a pivotal role in the development and progression of chronic diseases[2]. The modernization and urbanization of Chinese society have brought about notable changes in dietary patterns, shifting from traditional diets rich in whole grains, vegetables, and legumes to diets characterized by increased consumption of processed foods, refined carbohydrates, and unhealthy fats[3]. These dietary transitions, coupled with sedentary lifestyles, have contributed to the rising burden of chronic diseases in China[4].

Extract dietary habits and analyze overall dietary status as well as take into account the interactions between all foods and nutrients[5]. Thus, dietary patterns represent a broader picture of food and nutrient intake and can therefore predict disease risk better than other foods or nutrients individually[6]. Furthermore, in addition to studying the role of individual nutrients, dietary patterns have become the focus of nutritional research. Factor analysis of eating habits helps us to understand the proportion of foods in the diet according to the method of reducing quantity[7]. The variable representing the correlation coefficient between food and sample is factor load, and positive load indicates a positive association with a factor, while negative load

## Castelnuovo Gianluca\*

Istituto Auxologico Italiano IRCCS, Psychology Research Laboratory, Ospedale San Giuseppe, 28824 Verbania, Italy

\*Author for correspondence:

castelnuovo.gianluca@unicatt.edu.it

**Received:** 01-5-2023, Manuscript No. OARCD-23-91819; **Editor assigned:** 03-5-2023, Pre QC No. OARCD -23-91819; **Reviewed:** -17-5-2023, QC No. OARCD-23-91819; **Revised:** 23-5-2023, Manuscript No. OARCD-23-91819 (R); **Published:** 30-5-2023; DOI: 10.37532/rcd.2023.7(3).042-044

indicates a negative association with factor and the higher d, the contribution of a given food to the factor, the greater the contribution of that food to a particular factor[8]. The eating habits of Asians, including Chinese are significantly different from those of Westerners. Therefore, it is important to examine diet and its association with chronic disease in the Chinese population. Even eating habits in northwest China, including Baoji, are different from other cities. However, diet and its association with hypertension, coronary heart disease, stroke and other chronic diseases have not been studied in Baoji city. Baoji, a representative city of western China, the second largest city of Shaanxi province, has eight thousand years of civilization and more than two thousand seven hundred years of construction history[9]. The present study aimed to investigate the health and dietary status of residents over 15 years of age in Bao Ke city, determine the eating habits of Chinese adults in Bao Ke, and determine whether the whether this eating habit is associated with chronic diseases (eg, coronary hypertension, cerebrovascular accident, osteoarthritis, neck and back disease, cancer). This can then provide the scientific basis for recommendations to improve diets and allow governments to formulate nutrition policy[10].

**Study population:** This study is based on the manual sample population survey of Baoji city in Shaanxi province, China, using multi-stage stratified random sampling from Baoji's total population and the Kish Grid Method. , organized by Baoji City Health Bureau and conducted by Baoji CDC. The inclusion criteria were over 15 years old, residing in Baoji city for more than six months, voluntarily participating in the study and actively cooperating in completing questionnaires and measurements; Exclusive criteria are under 15 years old, non-resident and cannot match. A total of 5020 participants were included in this study across 12 counties, excluding invalid samples, leaving a final 4968 valid samples. Among the valid samples, male was 2519 (50.7%), female was 2449 (49.3%) and mean age (SD) was 41.6 (16.3) years old, urban and rural times are 36.7% and 63.3% respectively. The composition of the study population matches that of the 2010 Baoji city population according to a statistical test; therefore, we can generalize this study to the general Baoji population.

#### Survey Methods and Quality Control

Questionnaires and anthropometry were

performed by well-trained forensic pathologists. Field survey was conducted in April 2013. Preliminary survey was held in one district before the official survey; it provides uniform investigation methods and achieves excellent performance. Height, weight, waist circumference and blood pressure were obtained using standardized early morning techniques and equipment. Height was measured to the nearest 0.1 cm when the subject was standing without shoes. The weight of light clothing is measured to the nearest 0.1 kg. Body mass index (BMI) was calculated as weight divided by height squared (kg/m<sup>2</sup>). Blood pressure was measured in the sitting position. Three measurements were performed on all subjects over a 5-minute period, and the mean of the triplicate was used in the analysis. All survey subjects participated voluntarily and informed written consent was obtained from all subjects. All aspects of design, training, sampling, fieldwork, data entry and verification are under quality control.

**Food consumption assessment:** We investigated the frequency and amount of participants' food consumption over the past year using a semi-quantitative food frequency questionnaire, converted to grams per person per day, which is calculated for each nutrient in the food using nutritional calculation software and is finally consolidated into each person's daily nutrient consumption. The food questionnaire included cooking oils, spices and 27 foods. When establishing the diet, considering statistical power, the same foods that were especially infrequently consumed were explained and consolidated (fresh milk, powdered milk and yogurt into milk; pickles, sauerkraut and sauerkraut into pickled vegetables; fruit juices and other refreshing beverages ), and finally we get the daily intake of 22 foods.

#### Conclusion

The association between dietary habits and chronic diseases in Chinese adults residing in Baoji is a topic of significant importance in public health research. This review has synthesized the existing literature to shed light on this relationship and its implications for disease prevention and management. The findings suggest that unhealthy dietary habits, such as a high intake of processed foods, refined carbohydrates, and saturated fats, are strongly associated with an increased risk of chronic diseases in Baoji. Conversely, adopting a healthy dietary pattern characterized by a high intake of

fruits, vegetables, whole grains, and lean proteins has been shown to reduce the risk of chronic diseases.

## References

1. Gaziano TA, Bitton A, Anand S *et al*. Growing epidemic of coronary heart disease in low and middle income countries. *Current Problems in Cardiology*. 35, 72-115 (2010).
2. Shimazu T, Kuriyama S, Hozawa A *et al*. Dietary patterns and cardiovascular disease mortality in Japan: a prospective cohort study. *Int J Epidemiol*. 36, 600-609 (2007).
3. Chockalingam A, Campbell NR, Fodor JG. Worldwide epidemic of hypertension. *Canadian Journal of Cardiology*. 22, 553-555 (2006).
4. De Stefani E, Rocco A.L, Deneo-Pellegrini H *et al*. Dietary patterns and risk of adenocarcinoma of the lung in males: a factor analysis in Uruguay. *Nutr Cancer*.63, 699-706 (2011).
5. Kant A.K. Dietary patterns and health outcomes. *J Am Diet Assoc*.104, 615-635 (2004).
6. Rezazadeh A, Rashidkhani B, Omidvar N. Association of major dietary patterns with socioeconomic and lifestyle factors of adult women living in Tehran, Iran. *Nutrition*. 26,337-341 (2010).
7. Hung HC, Joshipura KJ, Jiang R *et al*. Fruit and vegetable intake and risk of major chronic disease. *J Natl Cancer Inst*. 96,1577-1584 (2004).
8. Lutsey PL, Steffen LM, Stevens J. Dietary intake and the development of the metabolic syndrome: the atherosclerosis risk in communities study. *Circulation*.117, 754-761 (2008).
9. Esfahani A, Wong J MW, Truan J *et al*. Health effects of mixed fruit and vegetable concentrates: a systematic review of the clinical interventions. *J Am Coll Nutr*:30, 285-294(2011).
10. Heidemann C, Scheidt-Nave C, Richter A *et al*. Dietary patterns are associated with cardiometabolic risk factors in a representative study population of German adults. *British Journal of Nutrition*. 106, 1253-1262 (2011).