

北京市教委“学术创新团队”项目资助

Team Innovation Project of Beijing Education Committee

体育专业课程双语系列教材

Serial Biling Couress for Physical Education

首都体育学院教材建设项目

Courses Development Project of the Capital university of Physical Education & Sports

# 健康促进与体重控制

Health Promotion and Weight Control

主编◎吴昊



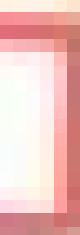
北京体育大学出版社

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主编 吴昊

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北京体育大学出版社

策划编辑：木 凡  
责任编辑：光 远  
审稿编辑：梁 林  
责任校对：李志诚  
版式设计：司 维  
责任印制：陈 莎

## 图书在版编目 (CIP) 数据

健康促进与体重控制 / 吴昊主编.  
— 北京 : 北京体育大学出版社, 2012.3  
ISBN 978-7-5644-0894-7

I. ①健… II. ①吴… III. ①保健—基本知识②减肥—基本知识 IV. ①R161

中国版本图书馆CIP数据核字(2012)第026633号

## 健康促进与体重控制

吴 昊 主编

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出 版：北京体育大学出版社  
地 址：北京市海淀区信息路48号  
邮 编：100084  
邮 购 部：北京体育大学出版社读者服务部 010-62989432  
发 行 部：010-62989320  
网 址：www.bsup.cn  
印 刷：北京昌联印刷有限公司  
开 本：787×960毫米 1/16  
印 张：24.5

---

2012年3月第1版第1次印刷

定 价：48.00元

(本书因装订质量不合格本社发行部负责调换)

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已承担完成教育部博士点基金课题、国家奥运攻关、国家科技部科技支撑计划等课题多项，并与国际运动生理、营养生化专家有长期的学术交流合作关系。

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# 前言

"Overweight and obesity are among the most pressing health challenges we face today!"从世界卫生组织(WHO)到每一个现代家庭都似乎都感觉到了这一点:超重和肥胖可能已经成为现代人类健康面临的巨大挑战!进入21世纪后,人类的需要由以物质为主转向精神为主,正在走向休闲时代。如何避免人类在追逐休闲的自由与快乐中迷失自己,长久地坐在被叫做电视、电脑的屏幕前面,而舍弃了百万年来人类赖以进化获得文明的“直立行走”?这无疑是一个世界难题、世纪难题。

现实:人类的体重和身体围度达到进化史上前所未有的水平!

汽车、电梯、电视、计算机和网络等这些“方便的”现代科技的产物让整个个人类失去了每天“直立行走”的机会。自己知的人类400万年进化以来,人类赖以获得文明和物种优势的是“直立行走”行为;200万年来,人类又借着耐力跑在进化中超越了其他物种。这是哈佛大学丹尼尔等古人类学家们2005年的新发现。然而,直到最近不到短短100年,人类“直立行走”和耐力奔跑行为随着生活科技、代步科技的发展而迅速减少,最为直接的后果就是人类的体重全面失控,相关慢性疾病、生存质量下降的连锁反应。

现代人类体重需要控制,每个人的健康需要促进!

因此,对多数现代人而言,目前最大的健康风险可能是体重失控以及继发的肥胖和相关疾病。本书就根据国际上对健康体重和体重控制的最新认识进行梳理、凝练和讨论。

本书设计在本科公选双语特色课程—《健康促进与体重控制》为对象,选取多个国外大学的相关课程现行课本,完善自编教材,充分运用国内外双语教学成果,逐步建立起有特色的体育健康教育课程双语教学模式,并在本科教学的实践过程中不断完善。经过多轮次的双语教学实践证明,双语教学的自编讲义取得了很好的收

效；通过双语教学，学生的第二语言能力、专业国际信息捕捉能力以及就业能力也有明显提高。

然而，双语教学的理论定位和实践定位要求都是相当高的，对学校、师资、课程，教材和学生都有着极高的要求。因此，目前在研究性教学实践中逐步建立起双语教学模式，继续开展工作的瓶颈是缺少一本辅助性双语教材，进而编写本科《健康促进与体重控制》双语特色本科教材。本科相关专业的建设需要和国际化办学接轨，开设相关双语课程，这完全符合推进国际化办学的主体发展战略。

双语教学是培养高素质现代体育人才的重要途径，目前国内体育院校纷纷开设双语课程，部分学校出版了双语教材。目前整体特点为课程科目少，材料比较传统，多数外文文献直接翻译而成，内容还缺乏有机的组织和本土化，还不能完全起到双语教材应有的双向作用。

因此，我们编写和选材的原则是：

- (1) 注意从现实阐述健康促进与体重控制，使学生感到有“味”；
- (2) 注意相关健康促进与体重控制国际化的概念和知识的培养；
- (3) 注意对学生相关思想方法的培养，诱导兴趣，培养创新能力；
- (4) 适当加强中外健康促进与体重控制对比的内容；

(5) 图文并茂，同时避免过于专业的文字和图表，选择有一定深度的、在美国较主流的相关参考书，兼顾一本普及性读物的需要。

本书充分运用了国内外双语教学成果，逐步建立起有特色的体育健康教育课程双语教学模式，并在本科教学的实践过程中不断完善，最终尽快形成特色教材，为教学改革与发展创造标志性成果。感谢配合参与相关参考材料搜集整理工作的廉萌、董琳、岳媛、柏杨、邢家奇、郭莹、王砚、李璐、刘惟、孙辉、李娜、谢阳乐、药婧瑶同学。

2008年奥运会在中国北京举行后影响到中国的休闲活动的结构，崇尚体育、崇尚健康休闲的文化发展有了更好的环境，健康休闲、体重控制与健康促进一定是作为现代人类存在与发展不可缺少的元素，也将促进人与社会的全面、健康与和谐发展。

2011年6月13日 初夏于京



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# **CHAPTER 1**

## **Health Promotion and Weight Control Crisis among Human Beings**

**"Overweight and obesity are among the most pressing health  
challenges we face today"**



# 1 Global Epidemic of Obesity

What is obesity? To most people, the term "obesity" means to be very overweight. Health professionals define "overweight" as an excess amount of body weight that includes muscle, bone, fat, and water. "Obesity" specifically refers to an excess amount of body fat. Some people, such as bodybuilders or other athletes with a lot of muscle, can be overweight without being obese.

## 1.1 Obesity Facts

- Obesity may soon overtake smoking as the world's biggest health problem
- Obesity levels have tripled in the past 20 years
- It can shave an average of 9 years from our lifespan
- Globally there are more than 1 billion overweight adults
- Key causes include consumption of energy dense food high in saturated fat and reduced physical activity

Obesity has reached epidemic proportions globally, with more than 1 billion adults overweight – at least 300 million of them clinically obese – and is a major contributor to the global burden of chronic disease and disability. Obesity is a complex condition, with serious social and psychological dimensions, affecting virtually all ages and socioeconomic groups.

Increased consumption of more energy–dense, nutrient–poor foods with high levels of sugar and saturated fats, combined with reduced physical activity, have led to obesity rates that have risen three–fold or more since 1980 in some areas of North America, the United Kingdom, Eastern Europe, the Middle East, the Pacific Islands, Australasia and China. The obesity epidemic is not restricted to industrialized societies; this increase is often faster in developing countries than in the developed world. ( Figure 1–1 )

Obesity and overweight pose a major risk for serious diet–related chronic diseases, including type 2 diabetes, cardiovascular disease, hypertension and stroke, and certain forms of cancer. The health consequences range from increased risk of premature death, to serious chronic conditions that reduce the overall quality of life. Of especial concern is the increasing incidence of child obesity.



### THE GLOBAL OBESITY PROBLEM

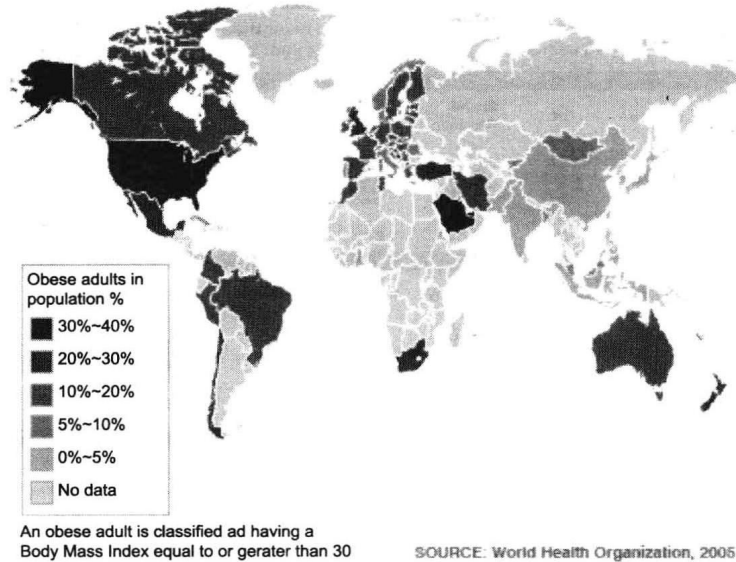


Figure 1-1 The Global Obesity Problem

## 1.2 Why is This Happening

The rising epidemic reflects the profound changes in society and in behavioral patterns of communities over recent decades. While genes are important in determining a person's susceptibility to weight gain, energy balance is determined by calorie intake and physical activity. Thus societal changes and worldwide nutrition transition are driving the obesity epidemic.

As incomes rise and populations become more urban, diets high in complex carbohydrates give way to more varied diets with a higher proportion of fats, saturated fats and sugars. At the same time, large shifts towards less physically demanding work have been observed worldwide. Moves towards less physical activity are also found in the increasing use of automated transport, technology in the home, and more passive leisure pursuits.

### 1.3 The Extent of the Problems

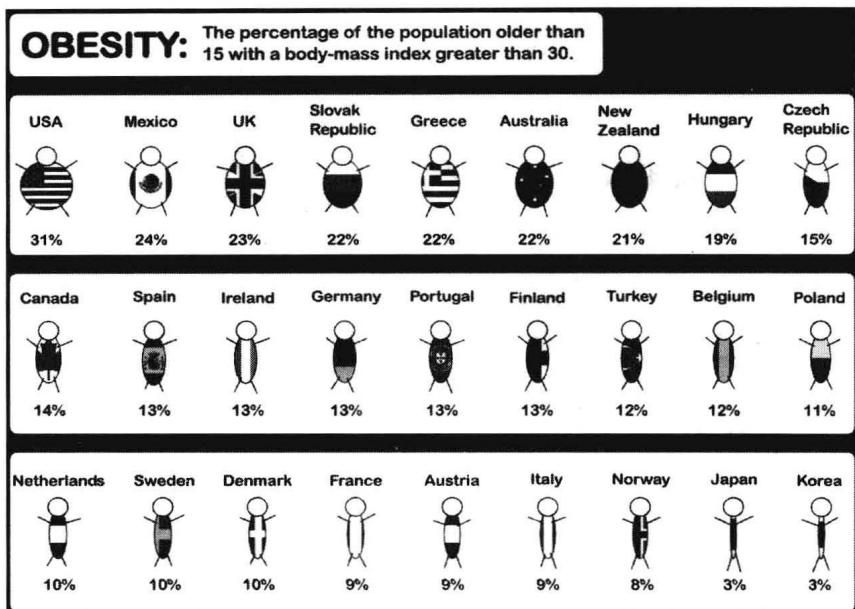


Figure 1-2 The Percentage of the Obesity Population

Current obesity levels range from below 5% in China, Japan and certain African nations, to over 75% in urban Samoa. But even in relatively low prevalence countries like China, rates are almost 20% in some cities. ( Figure 1-2 )

Childhood obesity is already epidemic in some areas and on the rise in others. An estimated 22 million children under five are estimated to be overweight worldwide. According to the US Surgeon General, in the USA the number of overweight children has doubled and the number of overweight adolescents has trebled since 1980. The prevalence of obese children aged 6-to-11 years has more than doubled since the 1960s. The problem is global and increasingly extends into the developing world, for example, in Thailand the prevalence of obesity in 5-to-12 year olds children rose from 12.2% to 15.6% in just two years. ( Figure 1-3 )

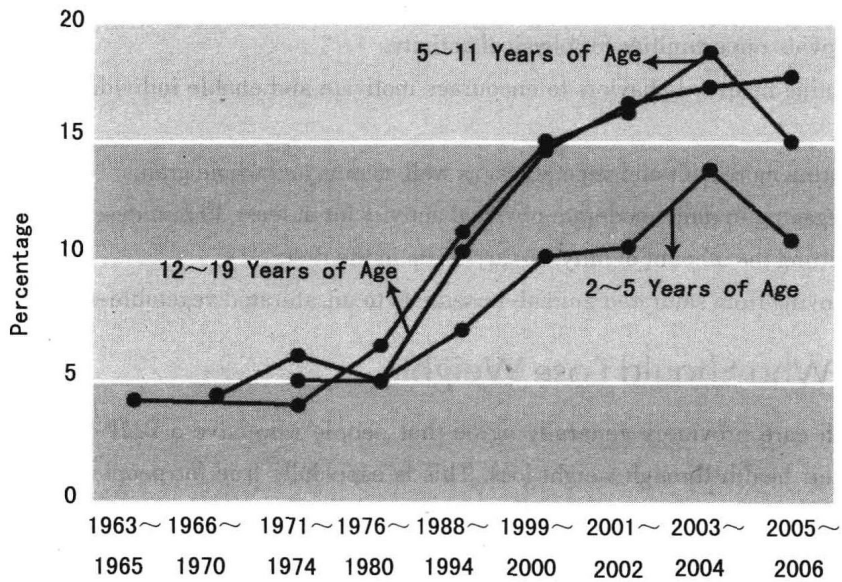


Figure 1-3 Epidemic of Childhood Obesity

Experts say that obesity among children is a problem that will manifest itself in a big way when these obese/overweight children grow up. If nothing is done to combat the problem we will be facing massive chronic health consequences. According to Prof. Kate Steinbeck, Sydney Royal Prince Alfred Hospital, a huge number of children today may die before their parents because of obesity.

Obesity accounts for 2–6% of total health care costs in several developed countries, some estimates put the figure as high as 7%. The true costs are undoubtedly much greater as not all obesity-related conditions are included in the calculations.

## 1.4 What Can We Do About It

Effective Weight Control for individuals and groups at risk of developing obesity involves a range of long-term strategies. These include prevention, weight maintenance, management of co-morbidities and weight loss. They should be part of an integrated, multi-sectoral, population-based approach, which includes environmental support for healthy diets and



regular physical activity. Creating supportive population-based environments through public policies that promote the availability and accessibility of a variety of low-fat, high-fiber foods, and that provide opportunities for physical activity.

Promoting healthy behaviors to encourage motivate and enable individuals to lose weight by:

- eating more fruit and vegetables, as well as nuts and whole grains;
- engaging in daily moderate physical activity for at least 30 minutes;
- cutting the amount of fatty, sugary foods in the diet;
- Moving from saturated animal-based fats to unsaturated vegetable-oil based fats.

## 1.5 Who Should Lose Weight

Health care providers generally agree that people who have a BMI of 30 or more can improve their health through weight loss. This is especially true for people who are severely obese.

Preventing additional weight gain is recommended if you have a BMI between 25 and 29.9, unless you have other risk factors. Obesity experts recommend you try to lose weight if you have two or more of the following:

- Family history of certain chronic diseases. If you have close relatives who have had heart disease or diabetes, you are more likely to develop these problems if you are obese.
- Pre-existing medical conditions. High blood pressure, high cholesterol levels, or high blood sugar levels are all warning signs of some obesity-associated diseases.
- "Apple" shapes. If your weight is concentrated around your waist, you may have a higher risk of heart disease, diabetes, or cancer than people of the same weight who have a "pear" shape. ( Figure 1-4 )

Fortunately, a weight loss of 5 to 10 percent can do much to improve health by lowering blood pressure and cholesterol levels. In addition, recent research has shown that a 5- to 7-percent weight loss can prevent type 2 diabetes in people at high risk for the disease.