



**Obesity
in the Pacific
Too Big To Ignore**



Obesity in the Pacific Too Big To Ignore

Based on the outcome of
the Workshop on Obesity Prevention and Control Strategies
in the Pacific, Samoa, September 2000,
convened by the World Health Organization Regional Office
for the Western Pacific, in collaboration with
the Secretariat of the Pacific Community,
the International Obesity Task Force,
the United Nations Food and Agriculture Organization
and the International Life Sciences Institute



© Copyright Secretariat of the Pacific Community, 2002

All rights for commercial / for profit reproduction or translation, in any form, reserved. SPC authorises the partial reproduction or translation of this material for scientific, educational or research purposes, provided that SPC and the source document are properly acknowledged. Permission to reproduce the document and/or translate in whole, in any form, whether for commercial / for profit or non-profit purpose, must be requested in writing. Original SPC artwork may not be altered or separately published without permission.

Original text: English

Secretariat of the Pacific Community Cataloguing-in-publication data
Obesity in the Pacific: too big to ignore

1. Obesity - Oceania
1. Secretariat of the Pacific Community

616.398

AACR2

ISBN 982-203-925-5

Published with financial assistance from WHO Regional Office, Manila
and the Government of Australia.

Graphics and Design: Patricia Martin
Printed by: Graphoprint, Noumea, New Caledonia

CONTRIBUTORS

This document has been prepared with contributions from the following people

Dr Tim Gill

Regional Co-ordinator Asia-Pacific, International Obesity Task Force, University of Sydney, Australia

Mr Robert Hughes

Visiting Research Fellow, Nutrition Program, University of Queensland, Australia

Ms Jimaima Tunidau-Schultz

Lifestyle Health Adviser, Secretariat of the Pacific Community, Noumea, New Caledonia

Ms Chizuru Nishida

Department of Nutrition in Health and Development, WHO, Geneva, Switzerland

Dr Gauden Galea

Regional Adviser in Health Promotion, WHO Regional Office for the Western Pacific, Manila, Philippines

Dr L. Tommaso Cavalli-Sforza

Regional Adviser in Nutrition and Food Safety, WHO Regional Office for the Western Pacific, Manila, Philippines

CONTENTS

Contributors	iii
Preface	1
Executive summary	2
A call to action	3
1. What is obesity?	4
2. Why is obesity a problem?	4
3. What is the extent of the problem in the Pacific?	6
Extent of obesity among adults	6
Extent of obesity among children	7
4. Aren't we just big people?	8
5. How much does obesity cost Pacific communities?	8
6. What are the causes of the obesity problem in the Pacific?	9
7. What can be done to tackle the problem of obesity?	10
Creating supportive environments	10
Promoting healthy behaviours	10
Mounting a clinical response	10
8. Integrating obesity action into current strategies for controlling noncommunicable diseases	11
References	12

PREFACE

In September 2000 representatives from 20 Pacific Island countries and territories met in Apia, Samoa to review obesity in the Pacific and to identify effective strategies for obesity control that governments could apply. The Workshop on Obesity Prevention and Control Strategies in the Pacific was convened by the World Health Organization Regional Office for the Western Pacific, in partnership with the Secretariat of the Pacific Community, the International Obesity Task Force, the Food and Agriculture Organization of the United Nations and the International Life Sciences Institute.

From this workshop it was concluded that obesity is a serious health problem throughout the Pacific region, affecting both men and women of all age groups. It was agreed that it was time to take up the challenge and mount an urgent, coordinated response to the obesity epidemic. This booklet summarises the views of the workshop participants and provides supporting data.



EXECUTIVE SUMMARY

Throughout the world the prevalence of obese people is growing rapidly. In the Pacific Islands obesity is a major epidemic.

Obesity is a serious condition in its own right. It increases the risk of disability and death and requires focused prevention and control measures. It is also causally linked to many other chronic diseases such as diabetes, hypertension, heart disease and some cancers. Together these diseases constitute an enormous public health problem in the Pacific region.

Obesity affects people of all ages and all social groups. It is already threatening the future wellbeing and longevity of many Pacific Island youth, as well as the economic prosperity of Pacific Island countries. Obese individuals and their families bear a considerable personal cost in the form of disability and premature death.

More broadly, obesity imposes huge financial burdens on health care systems and the community at large. Of particular concern is that, because obesity-related illness begins at an early age, a high rate of obesity increases the demand for health services on an ongoing basis. Furthermore, the condition impairs an obese individual's productivity and contribution to his or her country's development.

Obesity often coexists with undernutrition in the Pacific. As well as carrying its own health risks, inadequate nutrition in pregnancy and childhood is linked to the development of severe forms of noncommunicable disease early in adulthood. Therefore overnutrition and undernutrition need to be tackled simultaneously, and breastfeeding and food security programmes must be strengthened.

An effective response to obesity faces many barriers. Culturally, large physical size is considered a mark of beauty and social status on many Pacific Island countries. At a community and policy-making level, there is resistance to the view that obesity is a health problem. Many Pacific Island countries and territories depend on imported food, with commercial interests more likely to favour imports of high-fat, energy-dense foods. As food preferences among consumers in the Pacific change, imported and convenience food is afforded higher status. High rates of violence and crime reduce the opportunities for outdoor physical activity. For islands in transition, the inevitable growth in the use of modern technology sharply reduces physical activity and thus energy expenditure, adding to the problems created by the increase in sedentary occupations in urban areas of the Pacific region.



A CALL TO ACTION

The communities, governments and regional development partners of the Pacific Islands are challenged to mount an urgent, coordinated response to the obesity epidemic. The first step in meeting this challenge is for each country and territory to acknowledge the serious nature of the obesity problem and to commit to investing in programmes for its prevention and control.

There are three fundamental elements in the response to obesity:

1. Creating supportive environments

Environmental determinants of obesity must be addressed through public health policies that promote the availability and accessibility of a variety of low-fat, high-fibre foods and that provide safe places and opportunities for physical activity.

2. Promoting positive behaviours

Behavioural determinants of obesity must be addressed through the promotion of personal awareness, attitudes, beliefs and skills that motivate and enable people to modify recently introduced unhealthy eating patterns. Programmes should aim to restore, as much as possible, traditional methods of food preparation, processing and preservation using locally grown products, and to increase physical activity, which has declined with modernisation.

3. Mounting a clinical response

The existing burden of obesity and associated conditions needs to be controlled through clinical programmes and staff training to ensure effective support for those already affected to lose weight or avoid further weight gain.

Furthermore, these three elements should be:

1. founded on evidence and best practice models wherever these are available;
2. sustained over time, with sufficient human and other resources;
3. implemented with the participation of the community at national and local levels and with the collaboration of all relevant sectors, within and outside health;
4. integrated into existing initiatives, such as national plans of action for nutrition, national plans for the prevention and control of noncommunicable diseases, healthy islands, and national food security policies, and integrated within national health and development plans.



1. WHAT IS OBESITY?

Obesity is a condition of abnormal or excessive fat accumulation in adipose tissue to the extent that health may be impaired. However, because it is difficult to measure body fat directly, measures of relative weight for height, such as the Body Mass Index (BMI), are commonly used to indicate overweight and obesity in adults.

In the new graded classification system developed by the World Health Organization, a BMI of 30 kg/m² or above denotes obesity (Table 1). It is highly likely that individuals with a BMI at or above this level have excessive body fat.

Table 1. Classification of overweight in adults according to BMI

Classification	BMI (kg/m ²)	Risk of associated illness
Underweight	<18.5	Low (but greater risk of other clinical problems)
Normal range	18.5–24.9	Average
Overweight	≥25.0	
Pre-obese	25.0–29.9	Increased
Obese class I	30.0–34.9	Moderate
Obese class II	35.0–39.9	Severe
Obese class III	≥40.0	Very severe

Source: World Health Organization (2000)

2. WHY IS OBESITY A PROBLEM?

Overwhelming evidence links overweight and obesity to the development of a number of chronic noncommunicable diseases, such as type 2 diabetes, cardiovascular disease, hypertension, gall bladder disease and certain types of cancer (Table 2). Moreover, compared to their lean counterparts, severely obese 25- to 35-year-olds are 12 times more likely to die prematurely.

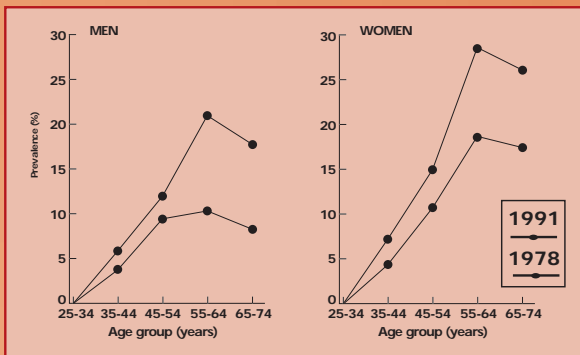
Table 2. Some major health consequences of obesity

<ul style="list-style-type: none">• Cardiovascular disease• Type 2 diabetes• Hypertension• Dyslipidaemia• Ischaemic stroke	<ul style="list-style-type: none">• Sleep apnoea• Degenerative joint disease• Some types of cancer• Gallstones• Fertility problems
--	--

Before they develop a life-threatening illness, many overweight and obese people develop at least one of a range of debilitating conditions that can drastically reduce quality of life and are costly in terms of reduced work capacity and use of health care resources. These conditions include joint disorders such as arthritis, respiratory difficulties, skin problems and infertility.

Coronary heart disease and stroke are the main causes of early adult death in the region. The rates of type 2 diabetes in many Pacific communities are many times higher than those in European countries and are continuing to rise rapidly (Fig. 1). Because of their body build, Pacific Islanders are highly susceptible to developing sleep-related breathing disorders (sleep apnoea) when they become overweight (Baldwin et al. 1998). Sleep apnoea, a serious and potentially life-threatening condition, also predisposes sufferers to other chronic illness.

Figure 1. Prevalence of type 2 diabetes in Samoan men and women, by age group, 1978 and 1991



Source: Collins et al. (1994).
Copyright. Reprinted with the permission of the American Diabetes Association Inc.

Undernutrition in pregnancy and childhood remains a problem in Pacific communities and often coexists with high levels of adult obesity. In addition to carrying its own health risks, it has been linked to the development of severe forms of non-communicable disease later in life, especially when undernourished children become obese adults. This association reinforces the need to tackle undernutrition along with overweight and unbalanced nutrition in many societies.



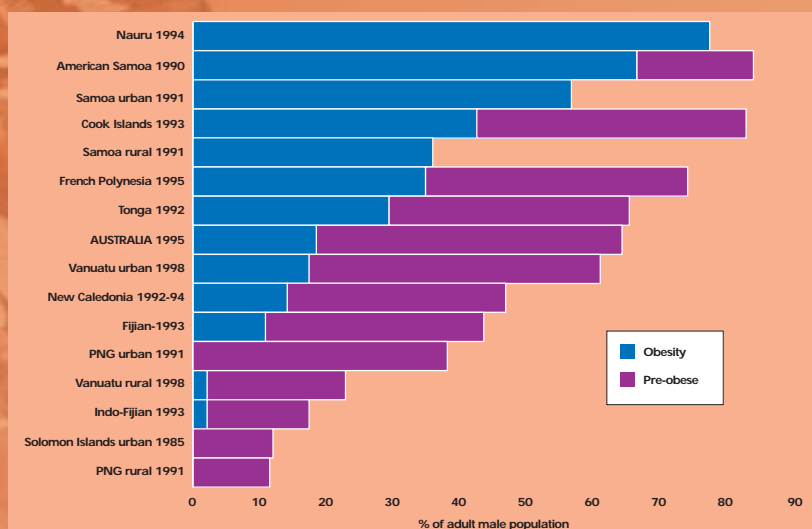
3. WHAT IS THE EXTENT OF THE PROBLEM IN THE PACIFIC?

Extent of obesity among adults

Some of the highest levels of adult obesity in the world are found in the Pacific Islands. Although good quality data have not been collected in all countries and territories of the region, available information indicates that obesity is a serious problem in nearly all Pacific Island communities and states. The results of recent surveys are presented in Figure 2 for males and Figure 3 for females.

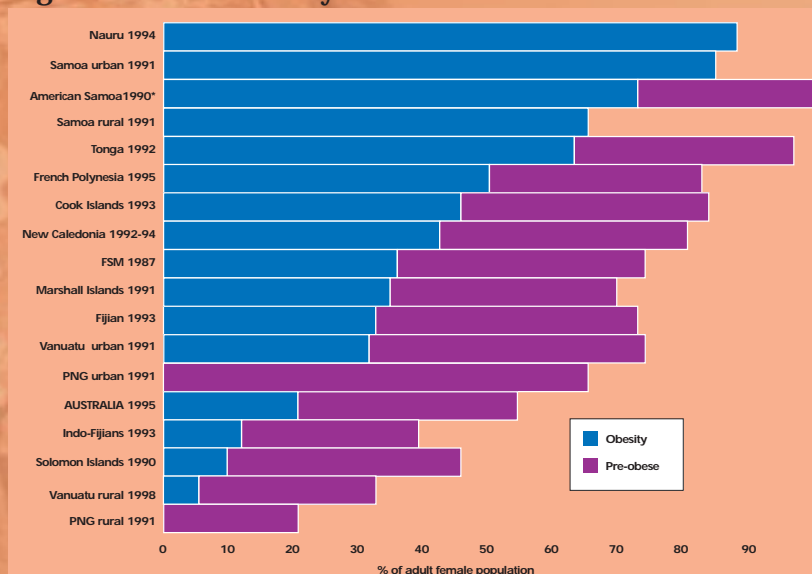
Obesity rates range from around two per cent of the adult population in highland Papua New Guinea to nearly 80 per cent in Nauru. In most communities, the rate of obesity is well above 20 per cent, exceeding the level in more developed countries such as Australia. The rates in such Pacific communities are even higher than the levels of obesity found in the United States of America.

Figure 2. Male obesity in the Pacific



Source: Coyne (2000)

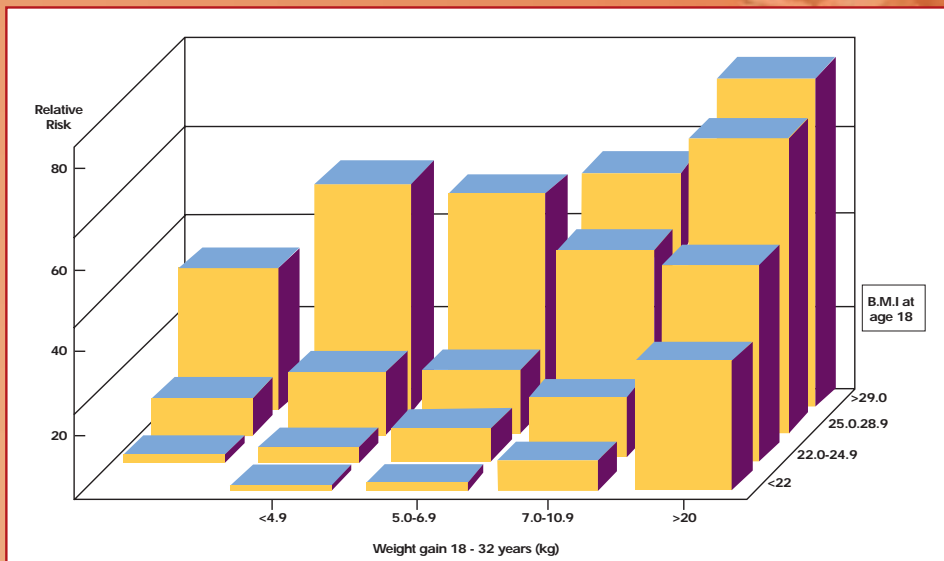
Figure 3. Female obesity in the Pacific



Source: Coyne (2000)

In general, obesity is a bigger problem among urban dwellers than among those in rural regions and is more prevalent in women than in men. Usually older adults have the highest rates of obesity. However, in some Pacific communities obesity rates peak at around 35 years of age. This latter trend has serious consequences for future health. A major study has shown that women who are obese at 18 years and continue to gain weight in adulthood are 70 times more likely to develop type 2 diabetes than those who remain lean (Fig. 4).

Figure 4. Age-adjusted relative risk for diabetes: weight at age 18 years and weight gain up to 32 years



Source: International Obesity Task Force, based on data from Colditz et al. (1995)

Extent of obesity among children

Worldwide, it is difficult to define obesity in children because body size and composition change as they grow. In the Pacific in particular, information about children's weight status is limited. Those surveys that have examined children's growth have revealed that 2 to 23 per cent of children under 5 years in certain Pacific communities may have mild to moderate undernutrition. Similar studies have indicated that 2 to 30 per cent of children surveyed could be considered overweight or obese. Various agencies and countries are working to develop standard references for children and adolescents. The International Obesity Task Force has published one such standard (Cole et al. 2000). However, as yet no internationally agreed reference defines childhood and adolescent obesity; it is urgent that this area is developed further.



4. AREN'T WE JUST BIG PEOPLE?

For a long time, 'big' has been a symbol of health, wellbeing, status and beauty in the Pacific Islands. As a consequence, a larger body has been viewed as acceptable and often desirable. In addition, it has been shown that Pacific Islanders have a larger frame and are generally more muscular at any given BMI level than people of European origin. So why has being big become a problem today?

In answering this question, it is necessary to distinguish clearly between 'bigness' due to muscularity and bigness as a result of over-fatness. The modern, sedentary lifestyle and changed dietary patterns of most Pacific communities are creating individuals who are big and fat rather than lean and muscular. In the past, being overweight or large may have provided some protection against the periods of starvation and some common infectious diseases. Today being over-fat contributes to the most common illnesses of diabetes and heart disease. Unfortunately extreme largeness is no longer confined to just a few highly prestigious people. Even after accounting for variation in frame size, the level of obesity in many Pacific Islands is double that in most developed countries.

5. HOW MUCH DOES OBESITY COST PACIFIC COMMUNITIES?

Obesity and its associated conditions are already imposing a heavy burden on health care systems of the Pacific Islands. As indicated in a recent analysis for the World Bank, management of noncommunicable diseases such as diabetes, heart disease and hypertension accounts for around half of all health care expenditure in certain Pacific countries (Table 3). Lost productivity associated with obesity-related injury and illness among the workforce adds a further financial burden to the community.

Compounding the burden at the national level is the hardship experienced by obese individuals and their families as a result of obesity-related disability and premature death.

Table 3. The costs of treating non-communicable disease (NCD) in some Pacific Communities compared to the costs of other treating other diseases (in US\$ and as % of total health care expenditure)

Type of disease	Fiji US\$ '000 (%)	Samoa US\$ '000 (%)	Tonga US\$ '000 (%)
NCDs	13,612 (38.8)	902 (43.3)	1,951 (57.8)
Infectious and parasitic diseases	6,479 (18.5)	392 (18.8)	413 (12.3)
Other (incl. maternal)	15,012 (42.8)	788 (37.8)	1,007 (29.9)
Total	35,103 (100.0)	2,083 (100.0)	3,372 (100.0)

Source: Dalton Andrew and Crowley Steven. Economic impact of NCD in the Pacific Islands (with special reference to obesity). Paper presented at the workshop on Obesity Prevention and Control Strategies in the Pacific, Apia, Western Samoa. September 26-29, (2000)

6. WHAT ARE THE CAUSES OF THE OBESITY PROBLEM IN THE PACIFIC?

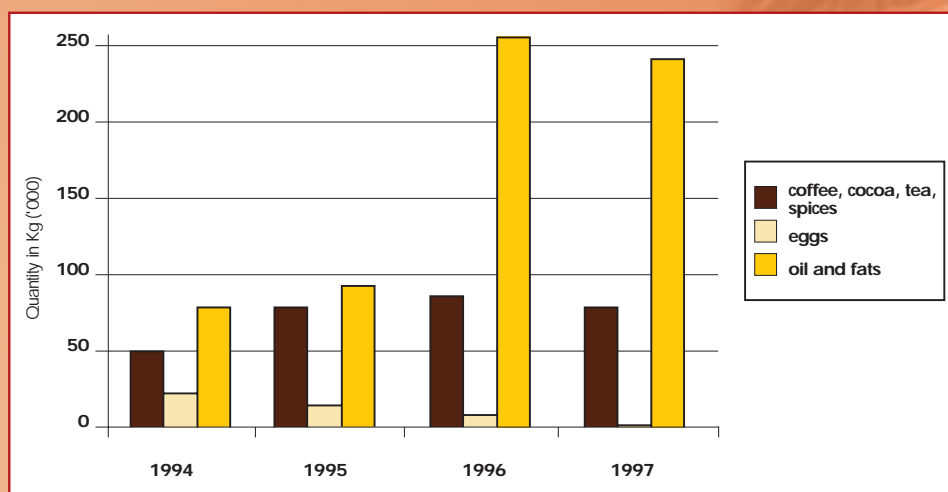
Obesity develops in individuals when the amount of energy they consume in food exceeds the energy they expend in their daily lives. Recent social and economic change in the Pacific Islands has reduced physical activity and increased the availability of high-fat, energy-dense foods.

Physical activity levels have declined dramatically as the number of people employed in manual farming and fishing has fallen and reliance on the motor car for travel has increased. In addition, urban crowding, unemployment and family breakdown have increased violence and crime, which in turn discourages walking and other forms of activity in certain areas or at particular times due to safety concerns.

Moreover, the foods that are most commonly consumed in Pacific communities have changed significantly. In particular, people have shifted away from traditional foodstuffs toward westernised, high-fat foods. Dietary surveys suggest that in some islands over half of all food energy comes from fat. The consumption of vegetables, fruits and root crops has decreased while the consumption of mutton flaps, turkey tails, vegetable oils and fried foods has risen. A high intake of alcohol, soft drinks and confectionery may also contribute to the problem. Corresponding with a fall in local food production, imported foods comprise between 30 and 90 per cent of all foods eaten in the Pacific.

Figure 5 shows how the importation of fats and oils in Kiribati grew rapidly in the mid-1990s. This situation is typical of many Pacific communities.

Figure 5. Kiribati food imports 1994–1997



Source: Statistics Office, Republic of Kiribati (1999)

7. WHAT CAN BE DONE TO TACKLE THE PROBLEM OF OBESITY?

An important first step in tackling the problem of obesity is to recognise that it is a major cause of ill health in the Pacific, imposing a huge burden on health care resources and on the economies of all nations. No community can afford to ignore the worsening obesity epidemic that affects both adults and children.

To be effective, prevention and management strategies for overweight and obesity should include:

- **creating supportive environments** — programmes to address the social, economic and environmental influences that promote or inhibit appropriate lifestyle changes;
- **promoting healthy behaviours** — behavioural change programmes to tackle issues such as poor nutrition and lack of physical activity;
- **mounting a clinical response**
 - disease monitoring and surveillance
 - improved primary and secondary health care services
 - training of health personnel.

Creating supportive environments

The amount, type and cost of food available, together with public safety, use of motor vehicles, work opportunities and town planning, affect the ability of people in Pacific communities to make lifestyle changes that prevent further weight gain.

These environmental determinants of obesity must be addressed through healthy public policies that promote the availability and accessibility of a variety of low-fat, high-fibre foods and that provide safe places and opportunities for physical activity.

Promoting healthy behaviours

Contributing to the growing problem of obesity have been the recently introduced unhealthy eating patterns and the major decline in physical activity that has accompanied modernisation in the Pacific Islands.

These behavioural determinants of obesity must be addressed through the promotion of personal awareness, attitudes, beliefs and skills that motivate and enable people to make appropriate changes. As much as possible, traditional methods of food preparation, processing and preservation using locally grown products should be restored, while physical activity should also be increased.

Mounting a clinical response

The existing burden of obesity and associated conditions needs to be controlled through clinical programmes and staff training to ensure effective support for those already affected to lose weight or avoid further weight gain.

Any programme of action to tackle obesity will be successful only if it has broad support across all sectors of government, industry and the community. It also needs to be resourced adequately and sustained for a sufficiently long period.

8. INTEGRATING OBESITY ACTION INTO CURRENT STRATEGIES FOR CONTROLLING NONCOMMUNICABLE DISEASES

Many Pacific Island countries and territories, in collaboration with the World Health Organization, the Secretariat of the Pacific Community and other agencies, are developing comprehensive policies and programmes to deal with the major risk factors for noncommunicable diseases. It is clear that the prevention and control of overweight and obesity should be central to all noncommunicable disease strategies. In some cases, this focus may require new initiatives to deal with issues that other health promotion programmes have not addressed. In many cases, however, it is necessary simply to revise an existing programme of action and strategies, including healthy islands initiatives, and national food and nutrition plans and policies.



REFERENCES

Baldwin, D. et al. 1998. Comparative clinical and physiological features of Maori, Pacific Islanders and Europeans with sleep related breathing disorders. *Respirology* 3:253–260.

Colditz, G.A., W.C. Willett, A. Rotnitzky and J.E. Manson. 1995. Weight gain as a risk factor for clinical diabetes mellitus in women. *Annals of Internal Medicine* 122(7):481–486.

Cole, T. et al. 2000. Establishing a standard definition for child overweight and obesity worldwide: International survey. *British Medical Journal* 320:1–6.

Collins, V.R., G.K. Dowse, P.M. Toelupe, T.T. Imo, F.L. Aloaina, R.A. Spark and P.Z. Zimmet. 1994. Increasing prevalence of NIDDM in the Pacific Island population of Western Samoa over a 13-year period. *Diabetes Care* 17(4):288–296.

Coyne, T. 2000. *Lifestyle diseases in Pacific communities*. Noumea: Secretariat of the Pacific Community.

Dalton, A. and S. Crowley. 2000. Economic impact of NCD in the Pacific Islands (with special reference to obesity). Paper presented at the Workshop on Obesity Prevention and Control Strategies in the Pacific, Apia, Samoa. 26–29 September.

Statistics Office. 1999. *International Trade Statistics, 1997*. Bairiki, Tarawa, Republic of Kiribati: Ministry of Finance.

World Health Organization. 2000. *Obesity: Preventing and managing the global epidemic*. WHO Technical Report Series 894. Geneva: WHO.



