Diabetes in the Asia Pacific Region

Colin Binns, MBBS, PhD¹, and Wah Yun Low, PhD²

Diabetes was directly responsible for 1.5 million deaths in 2012 and 89 million disability-adjusted life years, more than 4% of all premature deaths. The World Health Organization compiled a summary of the epidemic for this year’s World Health Day and reported that the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014.¹ During this 35-year period, the prevalence of diabetes in adults older than 18 years has risen from 4.7% in 1980 to 8.5% in 2014 with a greater rise in middle- and low-income countries. The prevalence of diabetes was highest in the World Health Organization Region of the Eastern Mediterranean Region (14% for both sexes) and lowest in the European and Western Pacific Regions (8% and 9% for both sexes, respectively).²

The increasing problem of diabetes in our region is highlighted in the review of the epidemic in the island state of Tonga in this issue of the journal.³ The authors report the development of the epidemic of obesity, and report that over the past 4 decades, prevalence of diabetes increased from 5.2% to 19.0%. But, Tonga and the other island states of the Pacific are only just a little ahead of the rest of the region, as the prevalence of diabetes is rapidly increasing throughout the Asia Pacific region. The increase in diabetes is challenging public health and hospital systems around the world and in particular here in our region.⁴,⁵ In China, the epidemic of diabetes and related noncommunicable diseases will result in a huge burden on the health system and at the same time a financial bonanza for the pharmaceutical industry.⁶

In the review of diabetes on Tonga, the increase in diabetes was related to the increase in body weight and the authors demonstrated the potential reduction that could be realized by control of weight.³ Recently, the NCD Risk Factor Collaboration has documented the extent of the obesity world and estimated that in China alone there are 90 million obese adults, all at high risk of diabetes.⁷ In the 2013 issue of the International Diabetes Federation (IDF) Diabetes Atlas, the prevalence of diabetes in the Western Pacific region was reported to be 8.6% in 2013, or 138 million adults, and it is predicted to rise to 11.1%, or 201 million adults, in 2035.⁸

Diabetes is at the center of a complex web of causation where the most important immediate factor appears to be an increase in individual and community obesity. The web stretches back to the first “1000 days of life,” including infant feeding patterns and epigenetics.⁹,¹⁰ Alteration of the human microbiome by adverse events in early life, including the use of infant formula and antibiotic exposure, plays an important role.¹¹ The changing world diet and the promotion of high-energy “fast foods” are a part of the obesogenic environment in our region that will require public health intervention if progress is to be made.¹² While type 2 diabetes is highly prevalent in obese populations in our region, it is also increasing rapidly in populations, such as in South Asia,

¹School of Public Health, Curtin University, Perth, Western Australia, Australia
²Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Corresponding Author:
Colin Binns, School of Public Health, Faculty of Health Sciences, Curtin University, GPO Box U 1987, Perth, Western Australia 6847, Australia.
Email: c.binns@curtin.edu.au
where undernutrition is still prevalent and the people are generally regarded as “thin.” This suggests that the etiology could involve more than increased fat storage and insulin resistance. Narayan[13] suggests that early problems with adequate insulin secretion may also be involved. Stunting is still prevalent worldwide and shows a synergistic effect with later trends toward obesity. Height is inversely associated with gestational diabetes risk across ethnicities, with the strongest association among Asians.[14] But the evidence on stunting is still not complete and in a cohort study in Brazil (n = 5000), stunting in childhood was not associated with metabolic syndrome components in young adults.[15] Obese pregnant women (prepregnant body mass index ≥30 kg/m²) are 4 times more likely to develop gestational diabetes mellitus, which substantially increases the risk of later diabetes, except in mothers who choose to breastfeed.[16,17]

The epidemic of diabetes in the Asia Pacific region is of recent origin suggesting that traditional diets and lifestyle did not promote diabetes. No one would wish to return to the past with high mortality and short life expectancy, but there are components of traditional lifestyles that can guide modern public health. In the West, a predominantly vegetarian diet, more akin to a traditional Asian diet, appears to be one way of reducing diabetes.[18] Efforts to reduce overweight and obesity in the region certainly need to be intensified and include increasing physical activity and a return to a more traditional diet. There is increasing evidence that the origins of childhood obesity and some chronic disease, including diabetes can be found in early life, “first 1000 days.” Since the early origins of APAPCH (Asia-Pacific Academic Consortium for Public Health), we have always placed an emphasis on the public health benefits of maternal and child health programs and this effort needs to be renewed.

The review by Lin et al[3] is an important reminder about the epidemic in our midst. We already have much of the public health knowledge to tackle this problem, but we must act now. APACPH is positioned to make a unique contribution to the prevention and management of obesity and diabetes in the Asia Pacific through our teaching programs and research strengths. This year, the APACPH conference in Tokyo University (APACPH 2016) will discuss the role of dietary guidelines in our region, and they can be optimized to control obesity in our region, while at the same time, managing the undernutrition that still exists.

References