

13.5% compared to the predicted 10.9% in the European region.^{1,4}

Current and Future Epidemiological Predictions of Type 2 Diabetes in the Asia Pacific Region

The Asia Pacific region holds one-third of the world's population and within the countries of this region there is great diversification, not only from a geographical and cultural perspective, but in recent decades there has been rapid economic and social changes.³

Today, approximately 113 million Asians are thought to be diabetic and more than 95% of these people have

Asian populations generally have a higher percentage of body fat and are more likely to store extra fat centrally around their abdomen (causing a disproportionately large waist-to-hip ratio) compared to Caucasians of the same age, sex and BMI level. This makes them more susceptible to developing diabetes at lower levels of overweight and obesity. The Asian populations tend to accumulate intra-abdominal

their lifestyle becomes more sedentary due to changes in occupation from physical or outdoor work to a more office-bound or stationary, repetitive occupation and longer working hours, which in turn reduces time for physical activity.^{1,10}

In rural areas of countries such as China, India and Korea where a majority of people are still working in more traditional roles in agriculture and farming, the use of mechanical aids in the workplace, as well as employees being transported to work instead of walking or riding bikes, has played a role in the development of weight gain and Type 2 diabetes over time.³³ Economic growth and accumulated wealth have led to escalating rates of ownership of motor vehicles or increased use of improved public transportation systems.

Families are generally consuming more fats and oils, sugar and meat than in the past where traditional diets consisted of fish, fresh fruit and vegetables, and cereals. The affordability and convenience of take-away food in the urban areas of each country have had a great impact on the rates of obesity and Type 2 diabetes. Many Asia Pacific countries that were once self-sufficient in growing their own food have seen a huge increase in importing foods that are high in fat and calories and are not part of their traditional diet. Even in rural areas where traditional meals are still being consumed, the use of vegetable oil in cooking has greatly increased. An example of this is in China where the per capita consumption of vegetable oil in the last two decades has increased from 1 liter to 17 liters per year. Korea, Malaysia and Thailand have also seen large increases in their oil consumption over recent years, causing obesity and Type 2 diabetes rates to soar in the rural areas.^{2,4}

Genetics and Family History

It's estimated that a person with one parent with Type 2 diabetes has double the risk, while having both parents with the disease can increase the risk up to six times. There is a strong genetic susceptibility to Type 2 diabetes in the Asia Pacific population. The basis for this susceptibility is known as the thrifty genotype which is a certain "evolutionary gene" in certain populations, especially Australian Aborigines and Pacific Islanders whose ancestors were hunter-gatherers. This gene promoted storage of calories in times of plenty, which would then ensure survival of the fittest in times of famine and/or starvation during the change in seasons. In current times where food is in more plentiful supply, especially in carbohydrates and saturated fats, accompanied with the reduction in physical activity, these genes have played a part in the development of obesity and Type 2 diabetes.^{1,13,18}

Low birth weight in many developing countries in the Asia Pacific region has also been associated with the subsequent risk of development of Type 2 diabetes and other noncommunicable diseases later in life. This is known as the "thrifty phenotype." This hypothesis states that poor nutrition in foetal and infant life can lead to insulin resistance for certain populations under the stress of obesity. This is especially so for countries such as India where approximately 30% of infants are underweight.^{3,6}

Conclusion

Escalating rates of Type 2 diabetes in the Asia Pacific region are a result of a combination of factors including changes in lifestyle, diet, and genetics. The risk of developing Type 2 diabetes is increasing, and it is important to understand the factors contributing to this increase in order to develop effective prevention and treatment strategies.

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