



Obesity in Asia

by Bharath UP, Gen Re, Singapore

Asia’s economic growth in the past three decades has increased rapidly, which in turn has seen fast unplanned urbanisation and has impacted on lifestyle and health. One of the culprits to be blamed for major health issues in the majority of the population is overweight, or obesity. Obesity is the primary factor for raised blood pressure, elevated blood lipids and increased blood glucose levels, etc., which leads to cardiovascular disease and has the highest incidence of mortality.¹

Cardiovascular disease comes under the umbrella of noncommunicable diseases (NCDs) and is the main type of NCD followed by cancers, chronic respiratory diseases, and diabetes. As per the World Health Organization (WHO), globally cardiovascular diseases accounts for most NCD deaths, at a rate of approximately 17.9 million people per annum.²

In Asia two out of every five adults are either overweight or obese. The most obese countries in Asia are Kuwait, Jordan and Saudi Arabia. These countries have a high childhood obesity rate, especially Kuwait and Saudi Arabia.³ A recent projection from the World Obesity Federation (WOF) predicts that by 2030, approximately one billion people will be living with obesity worldwide, including one in five women and one in seven men.⁴

The current international definition of overweight (BMI 25–29.9 kg/m²) and obesity (BMI ≥ 30 kg/m²) in adults is largely based on Caucasian populations. However, body mass index (BMI) and body fat storage and distribution vary across different ethnicities. Asian populations, in particular South Asians, have higher levels of body fat at a given BMI. Thus, in Asian populations, lower BMI cutoff points should be used to define overweight and obesity, to improve the identification of people at risk of cardiometabolic disease. Various cutoff points for South and Southeast Asian countries have been proposed by pan-Asian, as well as national expert groups. Some, including the Asian-Pacific guidance, identify different degrees of obesity with differing levels of risk. As shown in Figure 1, most apply threshold values of BMI ≥ 23 kg/m² for overweight and BMI ≥ 25 or ≥ 27.5 kg/m² for obesity.⁵

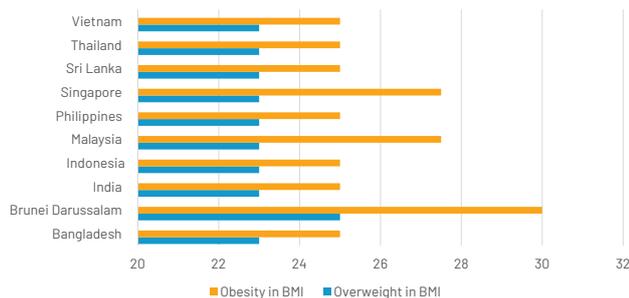
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About This Newsletter

Risk Insights is a technical publication produced by Gen Re for life and health insurance executives worldwide. Articles focus on actuarial, underwriting, claims, medical and risk management issues. Products receiving emphasis include life, health, disability income, long term care and critical illness insurance.

Figure 1 – Overweight definitions in Asian countries



Source: *Obesity in South and Southeast Asia—A new consensus on care and management, Obesity Reviews, 2023, Volume 24, Issue 2,*

Cause

Weight gain in children may start at a very early age if breastfeeding is discontinued early on and complementary food and beverages are introduced in their routine diet.

It is not uncommon that some medical and psychological conditions acquired during childhood progress through to adulthood. Some of the factors which contribute to the development of childhood obesity are hereditary, environment, metabolism, individual behaviour, and socioeconomic status.

In children and adolescents, excessive food consumption, high sugar intake, frequent snacking, eating while watching television, and increased use of mobile phone and online games resulting in reduced physical activities are the primary cause for overweight. If this continues throughout their childhood, it is likely that they will carry the excess weight into adulthood.

Also developing economies have seen higher spending capacity with wider food options, thereby developing overeating patterns and in turn excess weight gain. The food environment, in which nutrient-poor and energy-dense processed foods are aggressively marketed, readily available at cheaper rates than healthier alternatives, has changed. Also, switching the majority of the population from agriculture to manufacturing industries with reduced physical activity contributes to the increase in overweight population.

In urban areas, the lack of public recreation space, and a heavier reliance on motor vehicles for commuting with less cycling or walking have contributed to obesity in children and in adults.

During the COVID-19 pandemic lockdowns in 2020 and 2021, many schools reduced in-person classes and offices with a work from home option. This has resulted in increased screen time with further declined physical activity

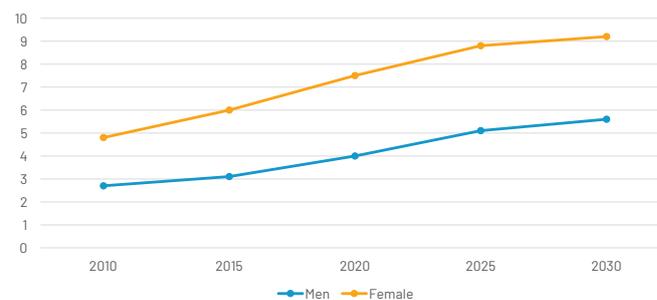
and mobility among the majority of the population which certainly has adversely impacted body weight in both adults and children.

Prevalence in South East Asia

In South East Asia nearly 23 million men and 38 million women had a BMI of ≥ 30 in 2010.

As per the latest prediction this is going to increase twofold by 2030. It is estimated that one in 20 men and one in 11 women will be obese by then. This equates to over 39 million men and 69 million women in the region at risk of complications of obesity by 2030. Of these, over five million men are predicted to have a BMI of ≥ 35 and over one million are predicted to have a BMI of ≥ 40 while 16 million women are predicted to have a BMI of ≥ 35 and almost 4 million a BMI of ≥ 40 (Figure 2).⁶

Figure 2 – Prevalence of obesity (BMI ≥ 30) among men and women in South East Asia



Source: *NCD Risk Factor Collaboration (2017) and World Obesity Federation projections*

Impact

In children, obesity is related to health complications such as increased risk for high blood pressure, high cholesterol, diabetes, orthopaedic issues, sleep apnoea, fatty liver, increased risks of myeloma, and cancers, etc. It also has an impact on their social development, education, sports, eating behaviours and overall childhood development. Many overweight young individuals are reported to be teased or bullied due to their weight, which may impact on their self-esteem and mental health.

It is difficult to estimate the association of rise in obesity and its impact on the economy and healthcare system. According to the WHO, the overweight and obesity cost in Asia accounts about 0.78% of GDP or US\$166 billion annually.⁷ This is significant and if not controlled, will have a negative impact on the economy, be a strain on healthcare system and reduce quality of life.

Researchers have identified two major categories of economic impact linked to the obesity epidemic: i) Direct medical costs and ii) Productivity costs.⁸

As highlighted earlier, overweight and obesity are linked with higher risk of multiple health issues, such as hypertension, type 2 diabetes, coronary heart disease, stroke, arthritis, etc. These chronic conditions increase medical spending due to consultation, investigation and long-term treatment which has direct financial impact on an individual. In addition, countries which lack adequate health resources and policies to manage the growing problems will likely be impacted by the rise in these chronic diseases.

The productivity cost of an individual poses another indirect cost on the overall economy as a result of obesity. This can be measured by the total aggregated productivity loss due to obesity. This aggregation includes an employee's absence from work due to obesity-related health issues, and decreased productivity of an employee while at work. Other categories of productivity costs are higher rate of disability benefit payouts in insurance market, early retirement and premature mortality which has a huge loss to the family and the economy. It has been estimated that obesity reduces an individual's productive time in the work force by four to nine years across the countries within the Association of Southeast Asian Nations.⁹

Experience during the COVID-19 pandemic showed us that comorbid obesity increases mortality and complications associated with infectious disease. Studies has shown that adipose tissues are rich in ACE2 receptors through which SARS-CoV-2 enters human cells. Obesity is noted to have potential to alter the immune function and increase the infection potential from various pathogens.¹⁰ In early 2022, a study was conducted on the correlation between COVID-19 death and prevalence of overweight. It was noted, an average COVID-19 death of 31 per 100,000 in 70 countries where overweight population was fewer than 50%. On the other side, where the overweight population is greater than half in 94 countries, there was an increase in COVID-19 death by four folds i.e 115 per 100,000. This study can be speculated that if world's adult population had less than 50% of overweight prevalence, then as many as 3 million of the 5.5 million COVID-19 deaths may have been averted.¹¹

Impact on insurance

The prevalence of coronary heart disease rises with increased body mass index in both men and women. Obesity is regarded by insurance companies as a substantial risk for both life and disability policies. This risk increases proportionally with the degree of obesity. Mortality statistics for life insurance are the earliest risk indicator. The cost of obesity to the individual is a decreased life span and increased illness, particularly that affects the cardiovascular and musculoskeletal systems.

Hypertension and diabetes are of high prevalence in obese population and add further to the risks of vascular disease. Abdominal obesity is correlated with the risk of cardiac disease and stroke, independently of bodyweight. Insurance companies consider abdominal obesity as an unfavourable risk factor and rate it accordingly. Obesity (even of moderate degree) greatly increases the chances of disability due to cardiovascular disease or musculoskeletal illness.¹² Obesity has been seen to be strongly linked with physical disabilities, increasing the chances of developing a disability, or exacerbating symptoms if one already has a disability.¹³

Figure 3 shows the incidence of cardiovascular disease and stroke in the male population.

This was derived from Gen Re's Dread Disease experience study covering the period 2012–2015 and 2015–2019 for Hong Kong, Singapore and Malaysia. As per the analysis from the leading insurance companies of the respective market, 43% of men in Singapore, 40% of men in Malaysia and 26% of men in Hong Kong had critical illness claims due to cardiovascular disease and stroke between 2015 and 2019. When compared with the 2012–2015 analysis, it was noted that there is an increase in claims by 3% in Singapore, 10% in Malaysia and 1% points in Hong Kong, which may be associated with overweight and obesity or simply an older portfolio.

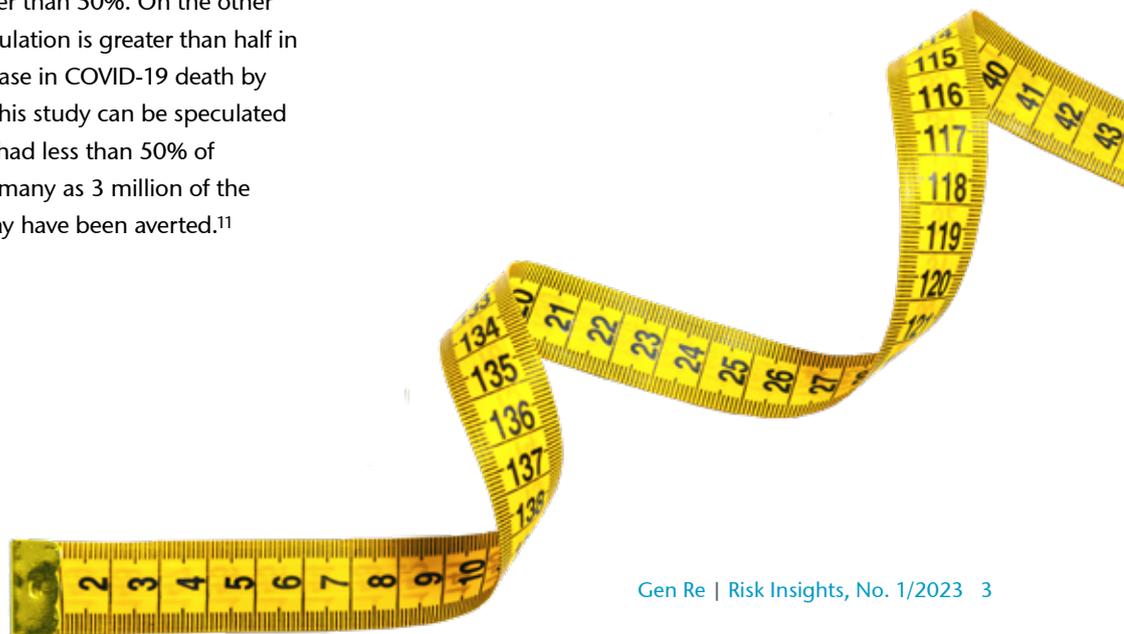
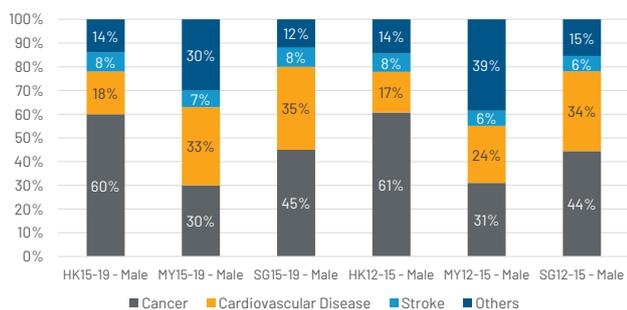


Figure 3 – Distribution of Critical Illness claims in Hong Kong, Malaysia and Singapore in men



Source: Dread Disease survey by Gen Re

Due to increases in body weight and medical complications, insurance companies may be confronted with increasing claims which will impact their profitability. To mitigate this cost, insurance companies may have to increase the premium so as to commensurate with this rising claim cost. This increase in price will impact on the healthy population.

Health insurance premium has doubled in the past 10 years, but it is unclear how much of this premium is sufficient to cover the financial burden of the obesity pandemic. The evaluation of existing and developing new health coverages related to obesity-related conditions is an important consideration for the profitability of the health insurance providers.¹⁴

Control

March 4 of every year is considered as “World Obesity Day”. This is to increase awareness on obesity, its health issues and economic concerns. Every country is aware of this issue, but not many governments have implemented successful policies to curb this increasing number of overweight populations in the past or recent years. Nevertheless, many countries are constantly working on this and have implemented certain prevention programmes to curb the unhealthy trend.

Some of the cost-effective interventions to prevent obesity are imposing higher taxes on sugar-sweetened beverages (SSBs), nutrition labelling, advertising bans on unhealthy food, and school-based interventions, etc. WHO has expressed its concern on increasing intake of free sugars, particularly in the form of SSBs which may increase the prevalence of obesity. In 2016, the WHO recommended the “implementation of an effective tax on SSBs” as one of several key measures to address childhood obesity.¹⁵ Asia, the Philippines and Thailand have already imposed sugar taxes. In Singapore in order to curb the nation’s sugar intake, by the end of 2023, the city’s food and beverage outlets will be required to indicate which of their drinks are high in sugar through the use of a government-developed grading system. The measures will build on regulations that are soon to come into effect.¹⁶

Current evidence indicates that consumers perceive nutrition labels to be useful and that labelling has a significant impact on food selection. There is limited evidence on its impact on BMI and obesity prevalence, but nutrition labelling is considered a cost-effective intervention in many settings.¹⁷

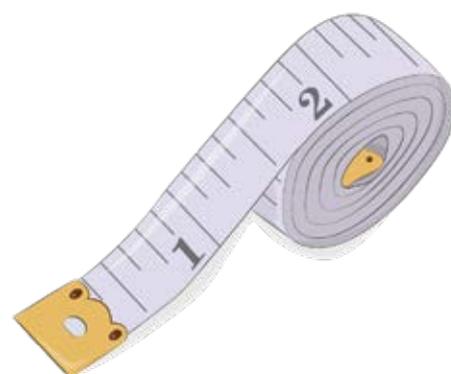
Unhealthy food and beverage advertisements may affect children’s eating habits and be associated with increased childhood obesity. In 2010, the WHO released recommendations urging member states to restrict the marketing of unhealthy foods and beverages to children. Since 2011 several countries, mostly developed nations, have tightened their regulations on the marketing of unhealthy foods and beverages to children and have banned unhealthy food and beverage television advertisements during children’s peak viewing times.¹⁸

School-based interventions include several activities intended to create environments and cultures that support children eating healthier foods and being more active, such as nutrition education classes, improvements in the nutritional quality of school food, physical education, and activities that promote movement and exercise.

In Singapore, the Health Promotion Board (HPB) has introduced programmes such as the Healthier Choice Symbol (HCS) and Healthier Dining Programme (HDP) to increase the availability of healthier options, as well as campaigns such as the Eat, Drink, Shop Healthy Challenge to incentivise healthier purchases.

In partnership with the Ministry of Education, HPB has implemented healthy meals programmes in all mainstream schools and 80% of preschools, to inculcate healthy eating habits from young.¹⁹

For seniors, Active Ageing Programmes (AAPs) are made available at over 600 locations island-wide where the elderly can participate in group exercises and health workshops. There are more than 350 parks and gardens, 200 km of covered link-ways, and 440 km of cycling paths and park connectors in the small Singapore island, and there are plans to further enhance the living environment to support a more physically active nation.²⁰



In China, experts from various disciplines such as public health, clinical medicine, nutritionists, and health policymakers grouped together to provide a collective consensus on obesity prevention and treatment in May 2022. The main aim is to come up with a guide to prevent and control rising obesity, promote the participation of the whole society, and contribute to Healthy China 2030 national development goals.²¹

In the Kingdom of Saudi Arabia, taxation of sugary beverages by the General Authority for zakat (GAZT) have also been implemented with a tax rate of 50% for soft drinks and a tax rate of 100% for energy drinks. Another prominent initiative was the implementation of Rashaqah (fitness), a joint programme between the Ministry of Health and the Ministry of Education, which addresses the provision of healthy canteen food, structured regular exercise sessions and screening for overweight and obesity among students.²²

Role of insurance in controlling obesity

In Asia, some insurance companies introduced financial incentives (for example: cash payments or reduced premiums) for better weight management during their renewal process for overweight policyholders in order to motivate insured lives to keep their weight in check and adopt healthier lifestyle. However, this was not always successful.

Currently, few of the companies have products which use claim-based pricing, which is a fairer pricing approach where the premiums are adjusted based on the claims history.

Insurance companies should continue to experiment on innovative approaches to educate the public on obesity and its long-term health benefits and incentivise healthier living to attract healthier policyholders. Further, reducing the prevalence of obesity is one of the most profitable investments which life and health insurance industry can make.

Conclusion

Obesity is a growing concern across the globe. Curtailing the current trend of obesity is everyone's responsibility. It is recognised that stigma is a common experience for people with obesity, with an impact on a person's physical and mental health. This leads to social isolation, depression, and anxiety which complicates the metabolic disorder and other medical complexities associated with obesity. People with obesity experience poorer medical care because of stigma and judgemental attitudes held, and often expressed, by various healthcare professionals. Surveys in Asian countries suggest that such opinions are common among clinicians

and the general public, and that people with obesity are reluctant to engage their doctors in a discussion about their weight.²³

Apart from government health promotion boards and the WHO, doctors, healthcare facilities, and health insurance companies can be the primary sources where awareness of obesity can be promoted. This includes advertising the benefits of low body weight, healthy food choices and adverse effects of consuming fast food, sugary drinks, etc. In addition, clinicians are well positioned to advocate for public health policies that promote healthy habits and help prevent obesity through exercise, antenatal, infant, and child nutrition programmes, and education. They can be the role model for healthy lifestyles. And as members of the broader community, they can bring their knowledge and standing to advocate for healthy changes that reach people well beyond the walls of the clinic.

Life and health insurance, with our broad claims data, can contribute by providing mortality and morbidity statistics to the local government health authorities and policymakers which in turn helps them develop health awareness campaigns for the public. Insurance companies with their broader reach can be an effective influence on the weight control behaviours of the insured public. They can promote themselves through sponsoring multiple health prevention programmes which certainly have a positive impact on society.

Ultimately, it is the responsibility of individuals who are overweight to take greater ownership of their bodyweight and understand the complications associated with it. People can take actions to maintain healthy bodyweight through healthy lifestyle, and discipline which can reap lifelong benefits.

About the Author

Bharath UP works as Regional Senior Underwriter in the Life/Health Asia Team, Singapore. He holds Master's in Microbiology, focusing on Underwriting, Claims, Product development and client handling.

Tel. +65 64 387 729
bharath.up@genre.com



References

- 1 https://www.who.int/health-topics/cardiovascular-diseases#tab=tab_1.
- 2 <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>.
- 3 <https://landgeist.com/2023/02/28/obesity-among-children-in-asia/>.
- 4 <https://www.worldobesity.org/news/one-billion-people-globally-estimated-to-be-living-with-obesity-by-2030>.
- 5 <https://onlinelibrary.wiley.com/doi/full/10.1111/obr.13520>.
- 6 https://s3-eu-west-1.amazonaws.com/wof-files/World_Obesity_Atlas_2022.pdf.
- 7 <https://www.adb.org/publications/imminent-obesity-crisis-asia-and-pacific-first-cost-estimates>.
- 8 <https://www.tandfonline.com/doi/full/10.2147/DMSOTT.S7384>.
- 9 <https://onlinelibrary.wiley.com/doi/full/10.1111/obr.13520>.
- 10 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8783972/>.
- 11 https://www.worldobesityday.org/assets/downloads/World_Obesity_Atlas_2022_WEB.pdf.
- 12 <https://pubmed.ncbi.nlm.nih.gov/10172079/>.
- 13 <https://www.mdpi.com/2227-9091/10/10/197>.
- 14 <https://www.mdpi.com/2227-9091/10/10/197>.
- 15 <https://www.who.int/southeastasia/activities/supporting-countries-to-address-childhood-obesity-through-implementing-population-based-interventions-fiscal-policies>.
- 16 <https://www.aseanbriefing.com/news/singapores-new-sugar-regulations/>.
- 17 <https://www.adb.org/sites/default/files/publication/226281/adb-wp654.pdf>.
- 18 <https://www.adb.org/sites/default/files/publication/226281/adb-wp654.pdf>.
- 19 <https://www.moh.gov.sg/news-highlights/details/obesity-trend-and-programmes>.
- 20 <https://www.moh.gov.sg/news-highlights/details/obesity-trend-and-programmes>.
- 21 <https://www.sciencedirect.com/science/article/pii/S2414644722000513>.
- 22 <https://middleeasthealth.com/healthcare-reports/saudi-arabia-report/world-obesity-federation-warns-about-increasing-cost-of-obesity-in-ksa/>.
- 23 <https://onlinelibrary.wiley.com/doi/full/10.1111/obr.13520>.

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General Reinsurance AG
Theodor-Heuss-Ring 11
50668 Cologne, Germany
Tel. +49 221 9738 0
Fax +49 221 9738 494

Editor:
Andres Webersinke, webersin@genre.com

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