



Fighting obesity among schoolchildren

Diabetes centre to tie up with 132 CBSE schools under its 'Chennai Slim and Fit Programme'

SPECIAL CORRESPONDENT

KEEPING THEM HEALTHY AND ACTIVE

Genetic, physiological, medical, environmental and dietary factors can all lead to a child becoming obese. Doctors have long called for dietary changes and increased physical activity to battle obesity

A 2009 study of 1,193 children in classes III, VII and XI of seven CBSE schools found

22% of the girls to be overweight

13.5% of the boys to be overweight

Implementation of Comprehensive School Health Manual led to:

- Reduction in body mass index (BMI)
- Reduction in body fat percentage
- Reduction in calorie intake



Vijay Viswanathan, Head and Chief-Diabetologist, M.V. Hospital for Diabetes, Royapuram, interacts with teachers at a "Chennai Slim and Fit Programme" - PHOTO: M. VIDHAN

teacher and the science teacher. Through this, we are looking at effective implementation of the health manual. We will also follow up with the schools," he said. The health manual, a CBSE schoolteacher said, was available but was not gone through very regularly. "We are hoping that this manual, which has guidelines for children across all age groups on health, will be taken up across all schools in Tamil Nadu," said Dr. Viswanathan. Childhood obesity, Dr. Viswanathan said, could lead to a host of long-term problems, including higher blood pressure and higher cholesterol levels and make children prone to diabetes. "It used to be a problem in the developed world but now it is increasingly a problem in India," he said. Genetic, physiological, medical, environmental and dietary factors can all lead to a child becoming overweight or obese, he said. Doctors have long called for dietary changes and increased physical activity to battle obesity.



Virat for healthier lifestyle among children

STAFF REPORTER

NEW DELHI: To ensure that children between the age group of 8 and 12 years grow up to be fit and make exercise a part of their daily life, cricketer Virat Kohli and technology-driven fitness platform Stepathon Lifestyle on Tuesday launched Stepathon Kids.

health lifestyle and to create long-term positive behaviour. These steps, when entered on the Stepathon Kids website, will get converted into distance and the team will move across a map of the world. To make it a fun activity, the race will take the children on a virtual journey around the world, provide them information on health, history, social studies and general knowledge. Speaking at the launch, the cricketer said: "As a sports figure, I realise my responsibility towards creating awareness about the importance of leading a healthy lifestyle, especially among children. The statistics on growing obesity in India are setting earlier and earlier alarm bells." Virat said he wasn't very interested in his fitness regime until a couple of years back. It was only after the 2012 Indian Premier League that he realised he had to become more devoted towards his fitness if he wanted to rise above average. "It started because of my sport, but now it has become a lifestyle."



STEP UP: Cricketer Virat Kohli interacts with children at the launch of Stepathon Kids in New Delhi



Researchers: Overeating can set stage for obesity

It also may spur inflammation. In one corner is the holiday table, growing with poultry, pie and mashed potatoes. Covering in the other corner: You, and your hope for a waistline smaller than your hips. But as you wade into the fest, internal forces conspire to make it hard to lose weight. But Marks is part of a growing cadre of researchers who also focus on the flip side of that equation: that evolution gave us mechanisms — albeit weak ones — to prevent weight gain and protect against its harmful effects. Too much fat would have made it hard for humans' ancient ancestors to escape predators and swing through treeops, said Dr. Michael Schwartz, director of the Diabetes and Obesity Research Center at the University of Colorado. "Your brain ... thinks you're starving to death," said Rudolph Leibel, an obesity expert at Columbia University. That drive to hold tight to your fat stores is more hard-wired — and harder to disrupt — than the system that defends against weight gain, Leibel said.

OBESITY CRISIS BLAMED ON NHS



Sir Cliff Richard outside the High Court in London yesterday



- **Define terms**
- **Present some data on childhood obesity to help answer the question – is childhood obesity a 21st century pandemic?**
- **Consider the factors influencing obesity prevalence**
- **Briefly outline how overweight and obesity can be reduced**

Pandemic

Word origin of 'pandemic' -C17: from Late Latin pandēmus, from Greek pandēmos, from pan- + demos the people

Definition of pandemic in English: [oxforddictionaries.com](https://www.oxforddictionaries.com)

pandemic - adjective

(of a disease) prevalent over a whole country or the world.

Adjective – Collins

prevalent over a whole area, country, etc.; universal; general; over a large region

Children under 5 years of age

For children under 5 years of age:

- overweight is weight-for-height greater than 2 standard deviations above WHO Child Growth Standards median*
- obesity is weight-for-height greater than 3 standard deviations above the WHO Child Growth Standards median

*** The WHO Child Growth Standards**

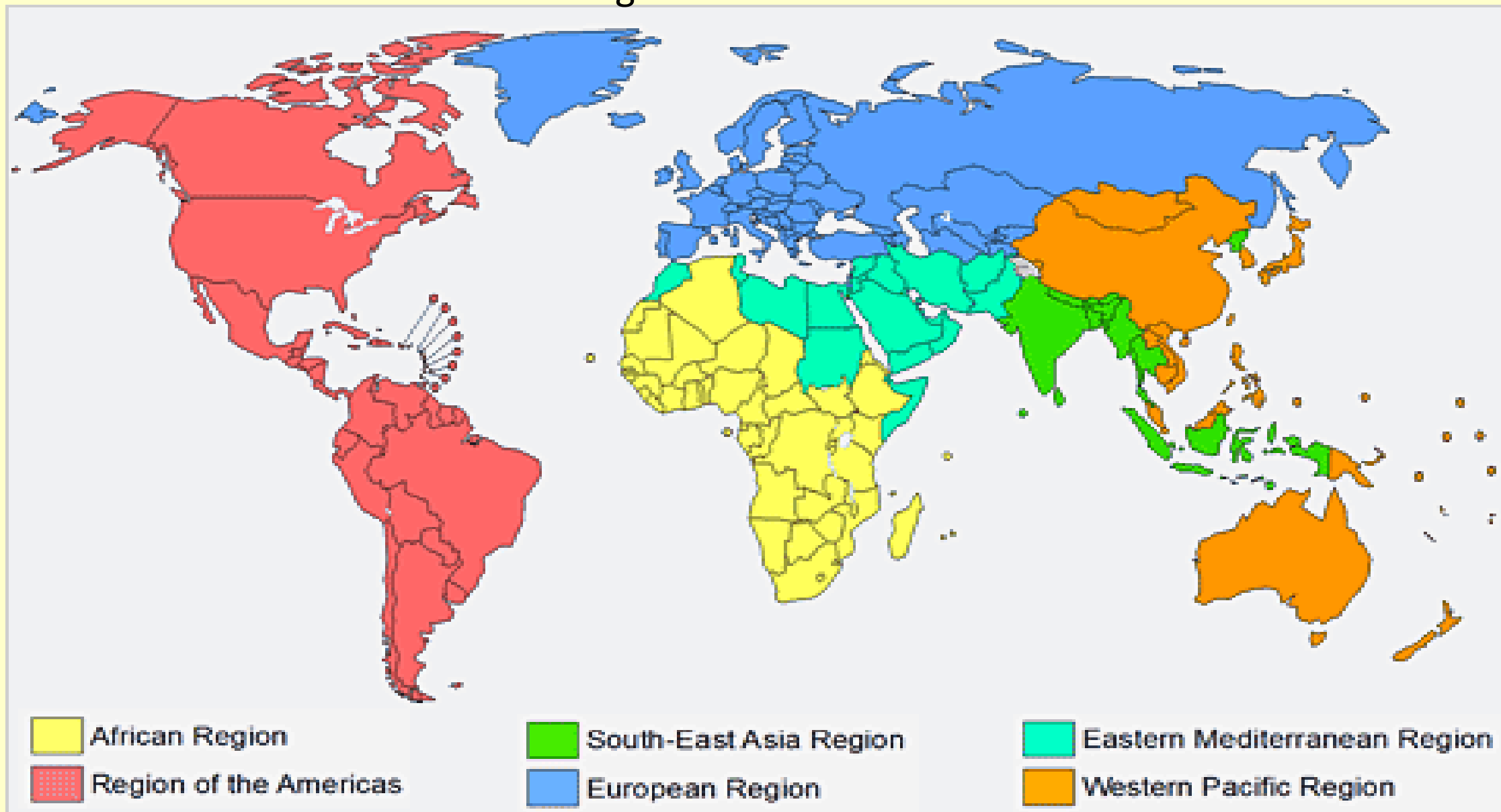
These standards were developed using data collected in the WHO Multicentre Growth Reference Study.

Children aged between 5–19 years

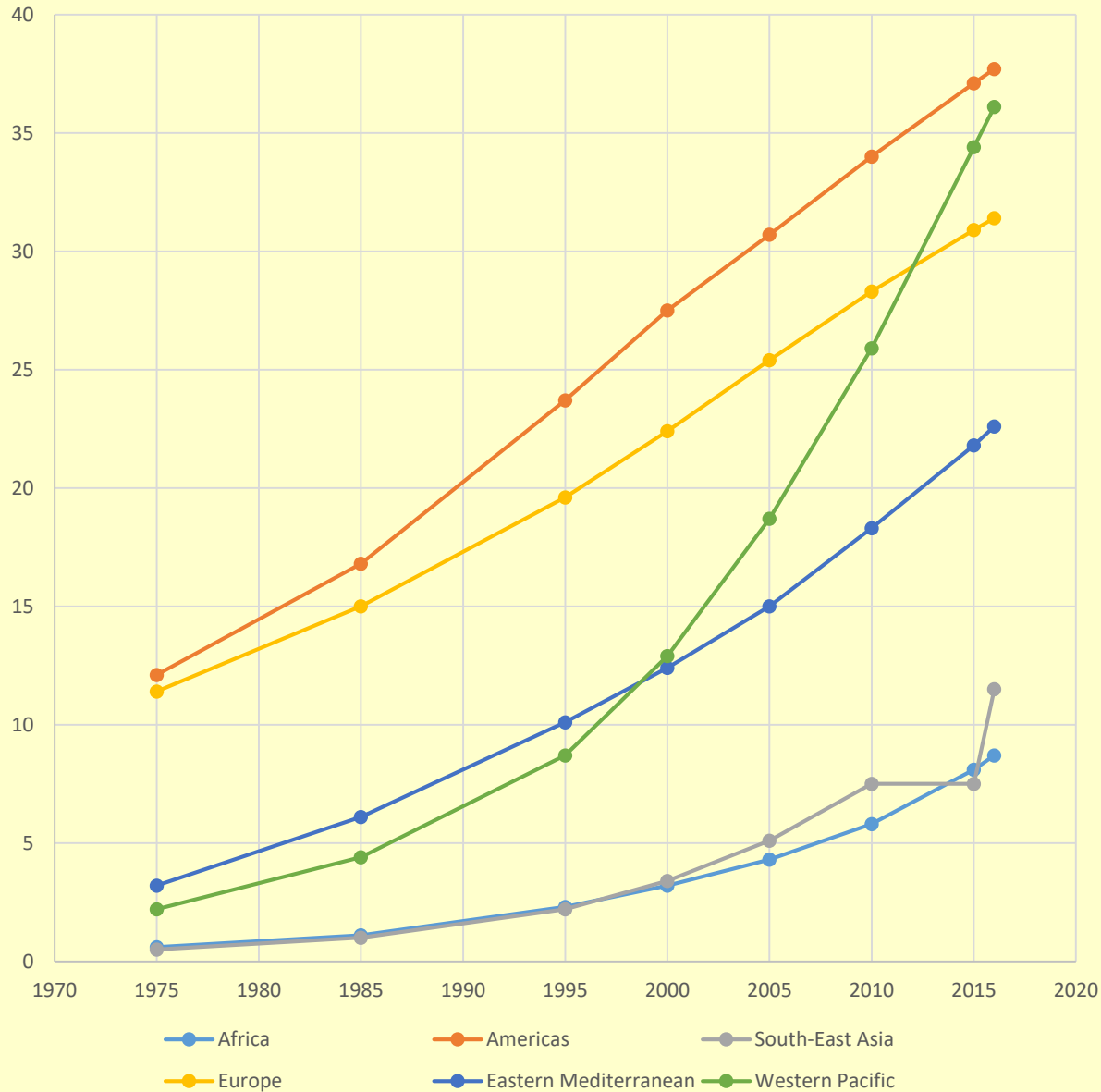
Overweight and obesity are defined as follows for children aged between 5–19 years:

- overweight is BMI-for-age greater than 1 standard deviation above the WHO Growth Reference median
- obesity is greater than 2 standard deviations above the WHO Growth Reference median

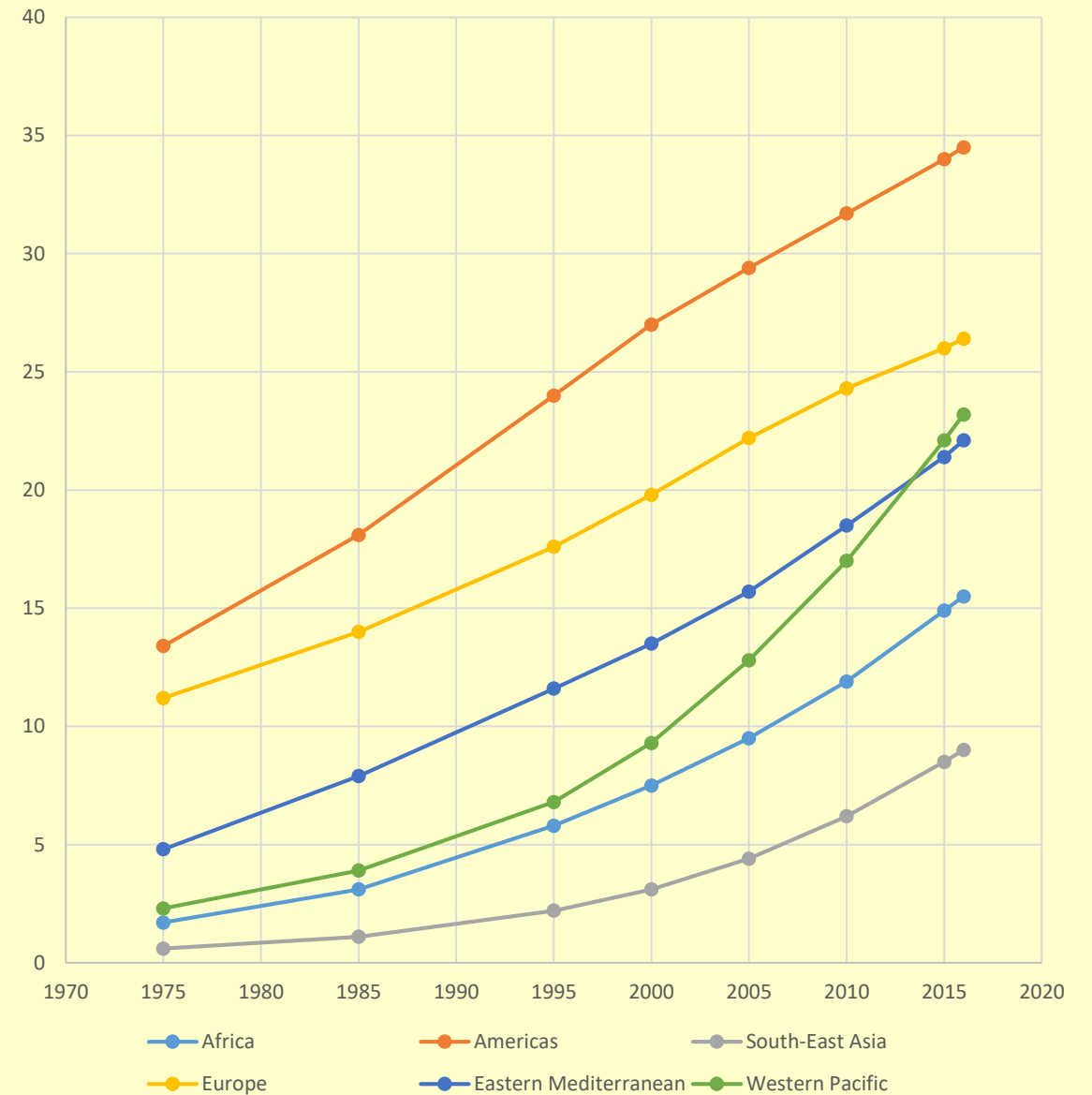
WHO Regions



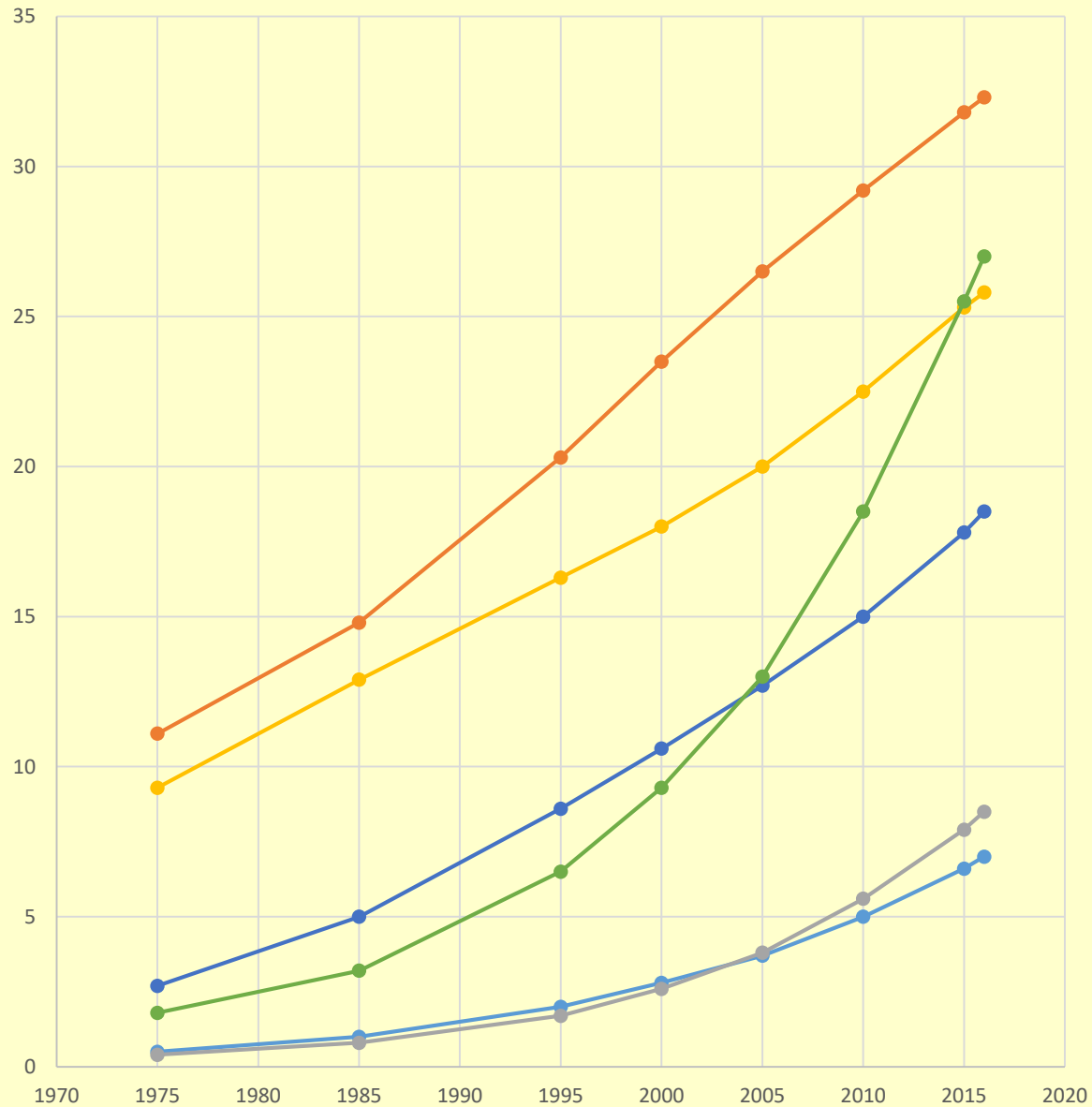
Prevalence of overweight among boys (5-9 years) BMI > +1 standard deviations above the median (crude estimate) (%)



Prevalence of overweight among girl (5-9 years) - BMI > +1 standard deviations above the median (crude estimate) (%)

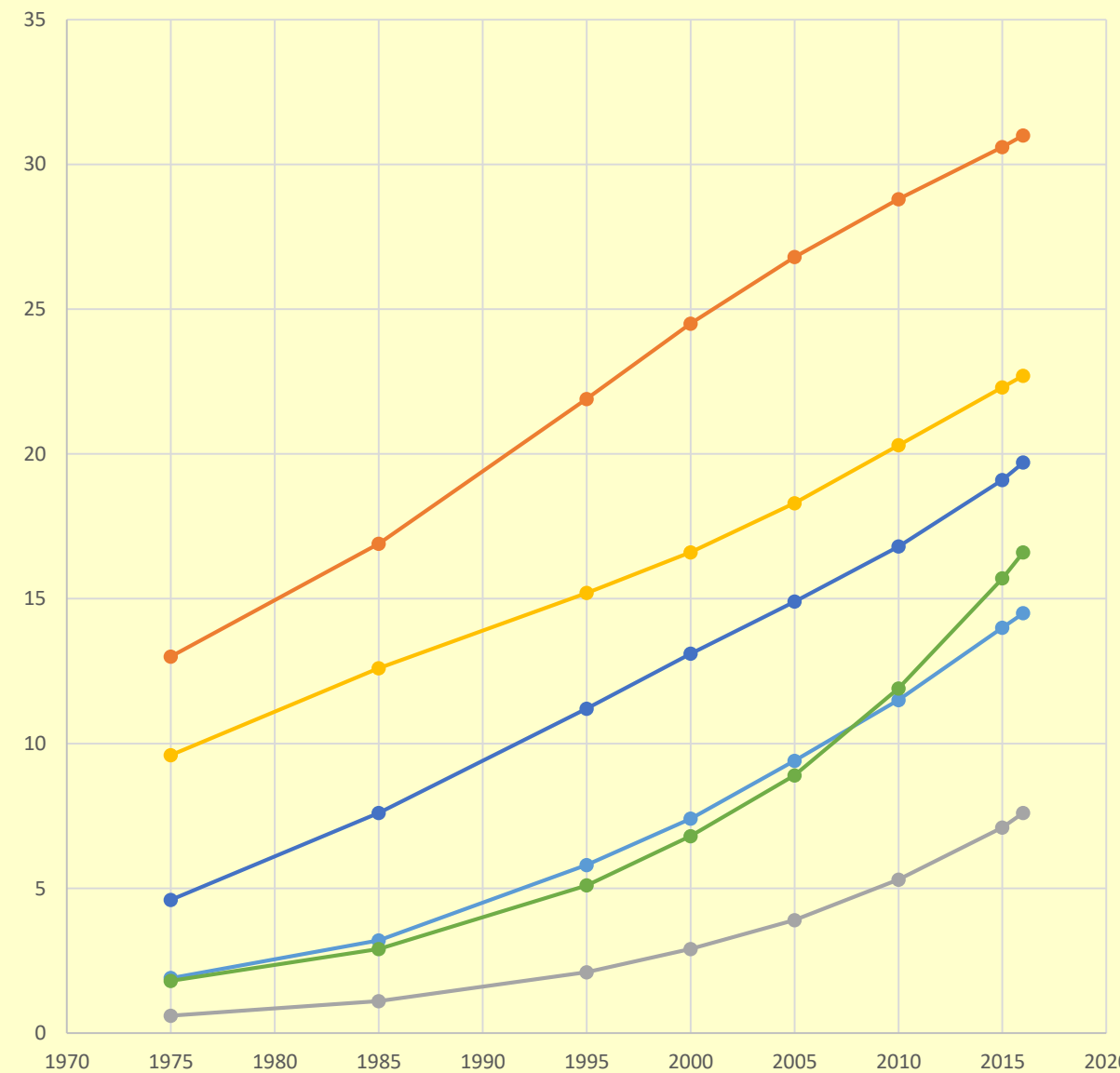


Prevalence of overweight among males (aged 10-19 years)
BMI > +1 standard deviations above the median (crude estimate) (%)



- Africa
- Americas
- South-East Asia
- Europe
- Eastern Mediterranean
- Western Pacific

Prevalence of overweight among females (aged 10-19 years)
BMI > +1 standard deviations above the median (crude estimate) (%)



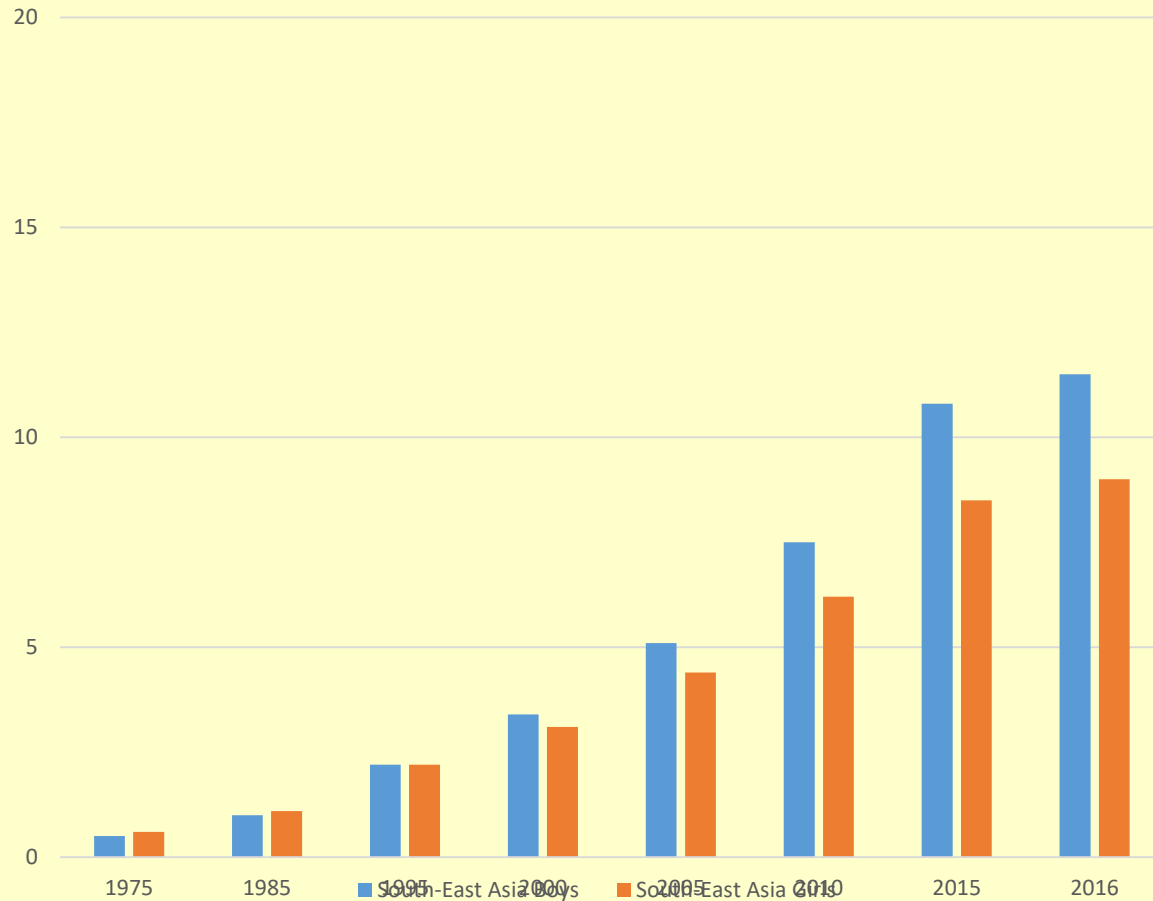
- Africa
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Facing a double burden of disease

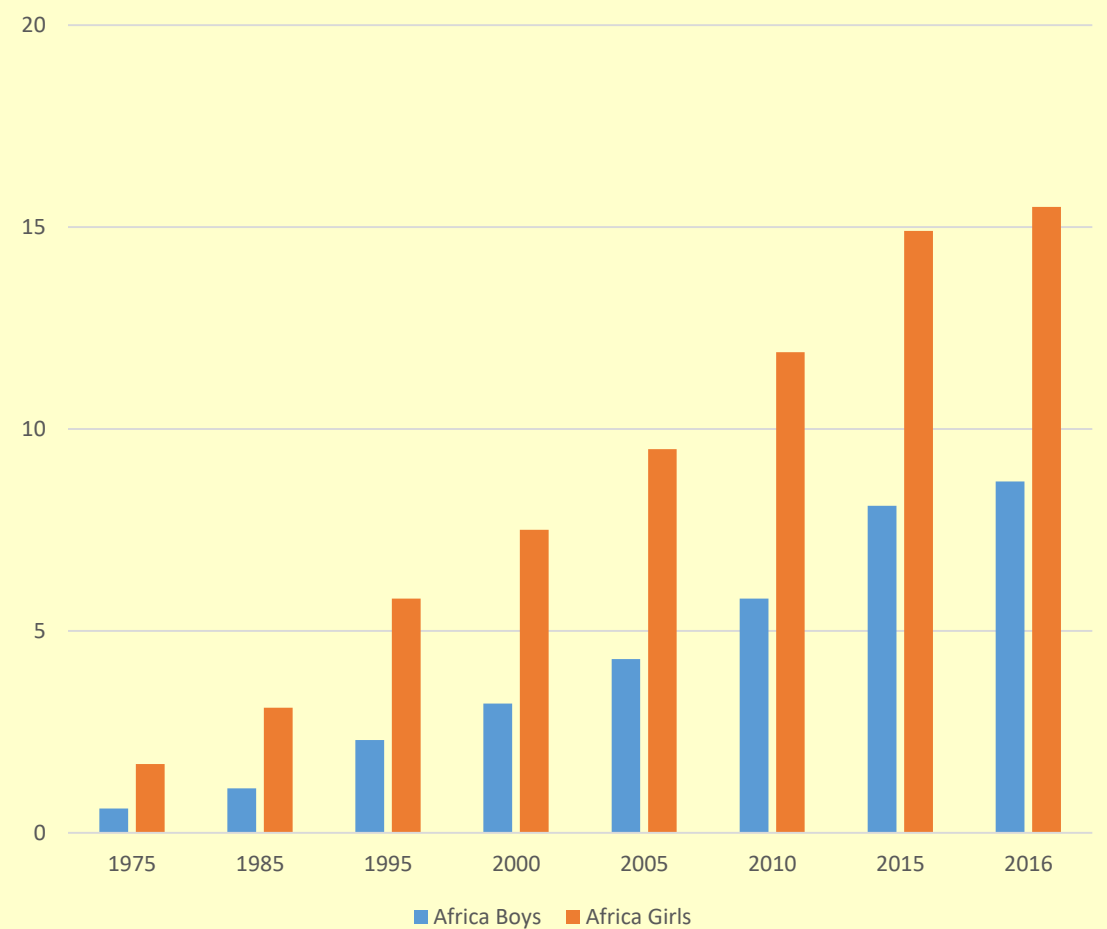
- Many low- and middle-income countries are now facing a "double burden" of disease.
- While these countries continue to deal with the problems of infectious diseases and undernutrition, they are also experiencing a rapid upsurge in non-communicable disease risk factors such as obesity and overweight, particularly in urban settings.
- It is not uncommon to find undernutrition and obesity co-existing within the same country, the same community and the same household.
- Children in low- and middle-income countries are more vulnerable to inadequate pre-natal, infant, and young child nutrition.
- At the same time, these children are exposed to high-fat, high-sugar, high-salt, energy-dense, and micronutrient-poor foods, which tend to be lower in cost but also lower in nutrient quality.
- These dietary patterns, in conjunction with lower levels of physical activity, result in sharp increases in childhood obesity while undernutrition issues remain unsolved.

Comparing Boys and Girls – Prevalence of overweight 5-9 years

South-East Asia

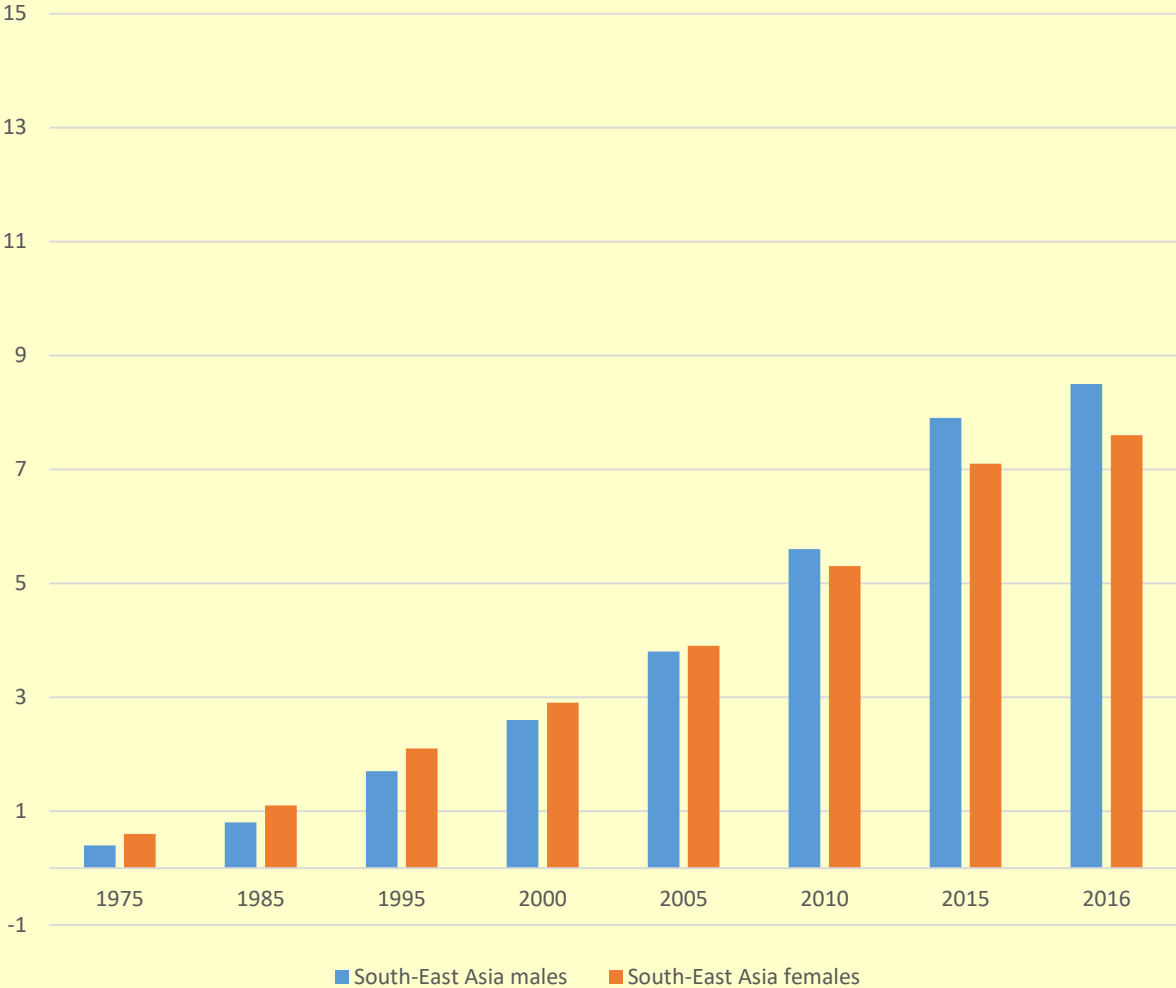


Africa

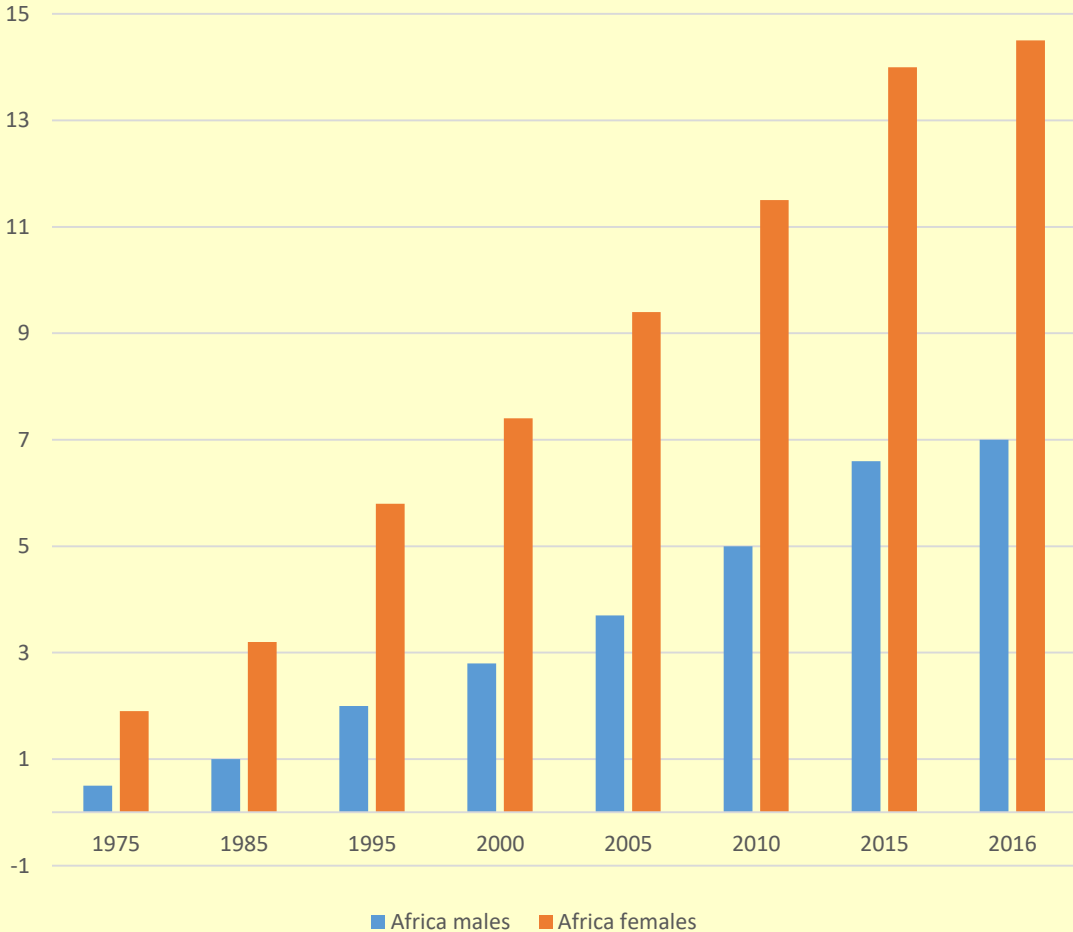


Comparing Boys and Girls – Prevalence of overweight 10-19 years

South-East Asia

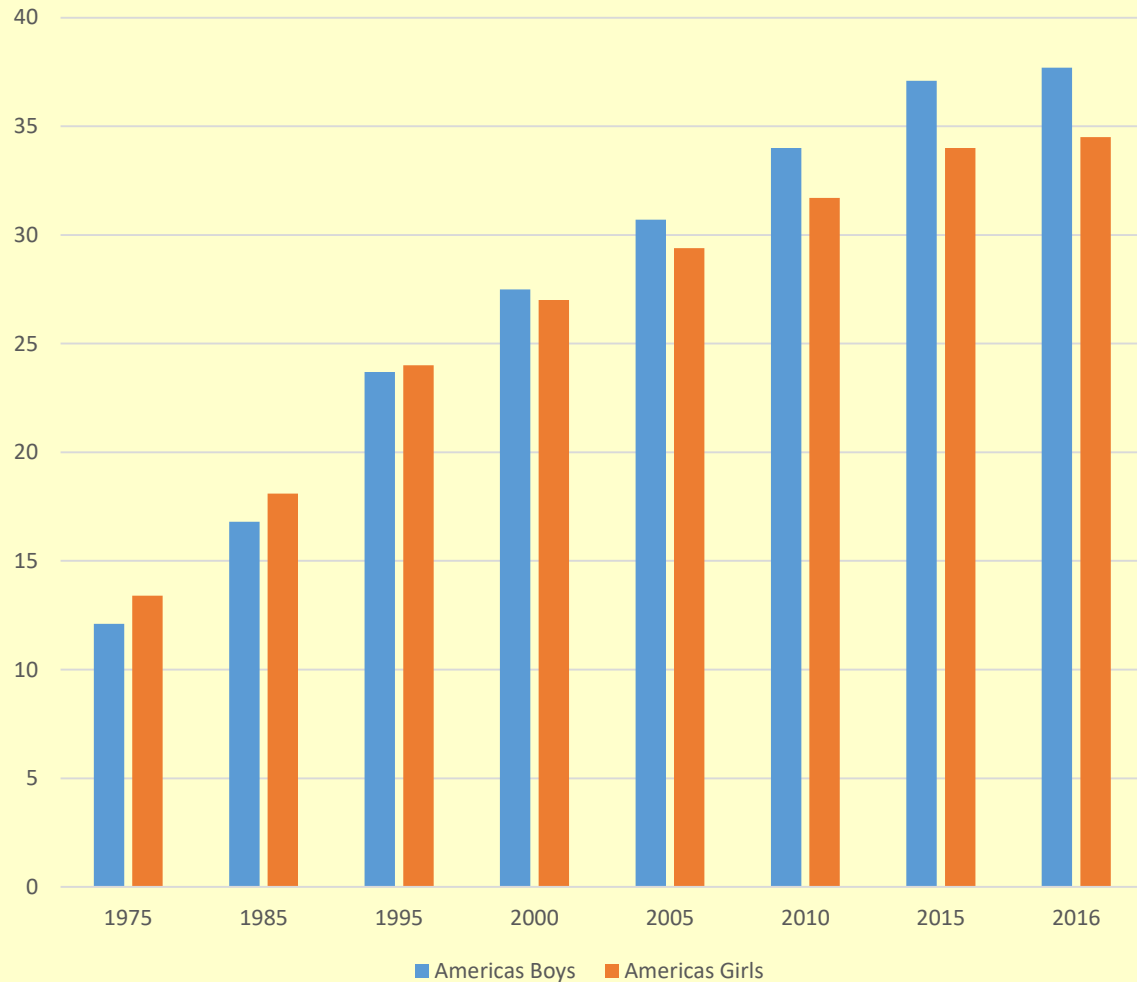


Africa

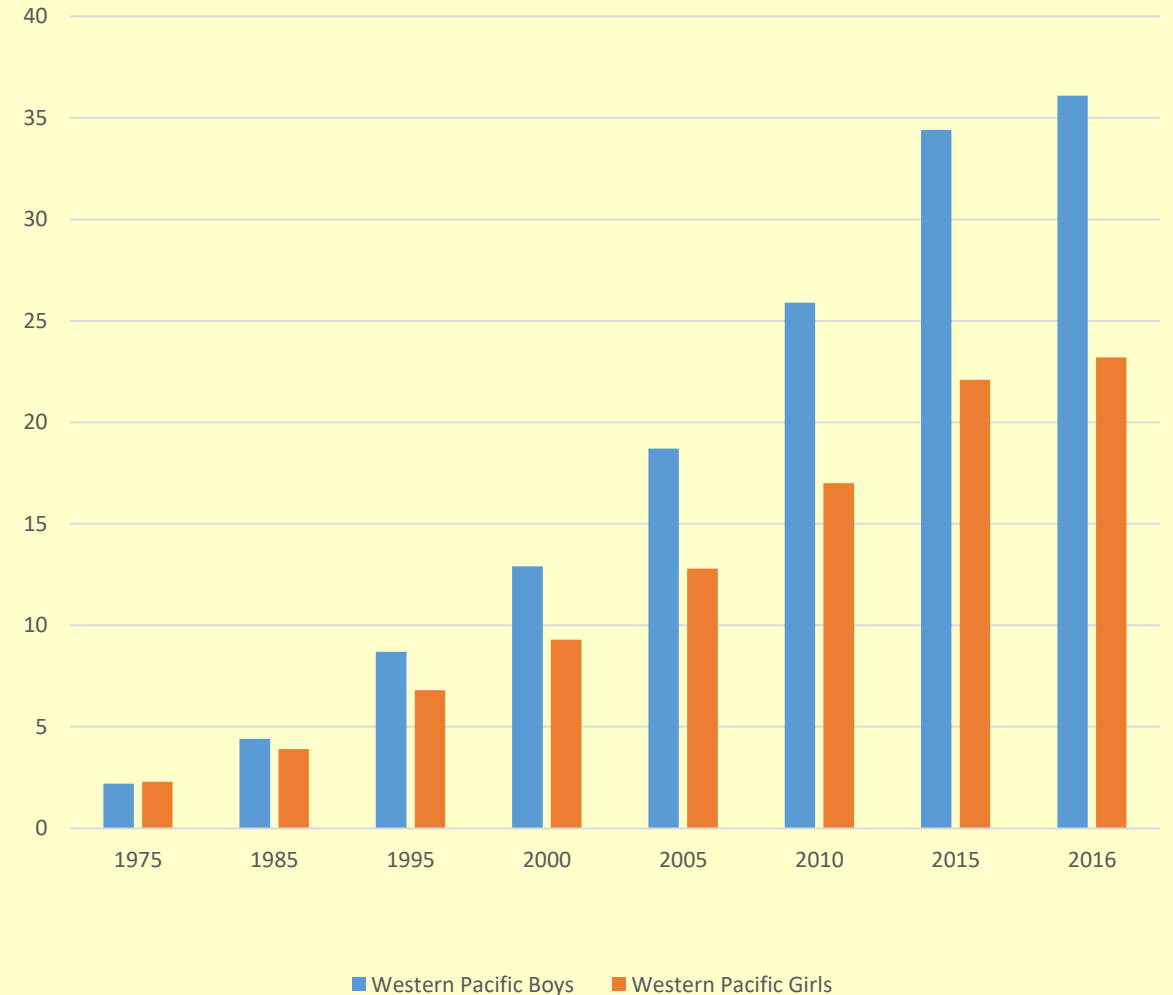


Comparing Boys and Girls – Prevalence of overweight 5-9 years

Americas

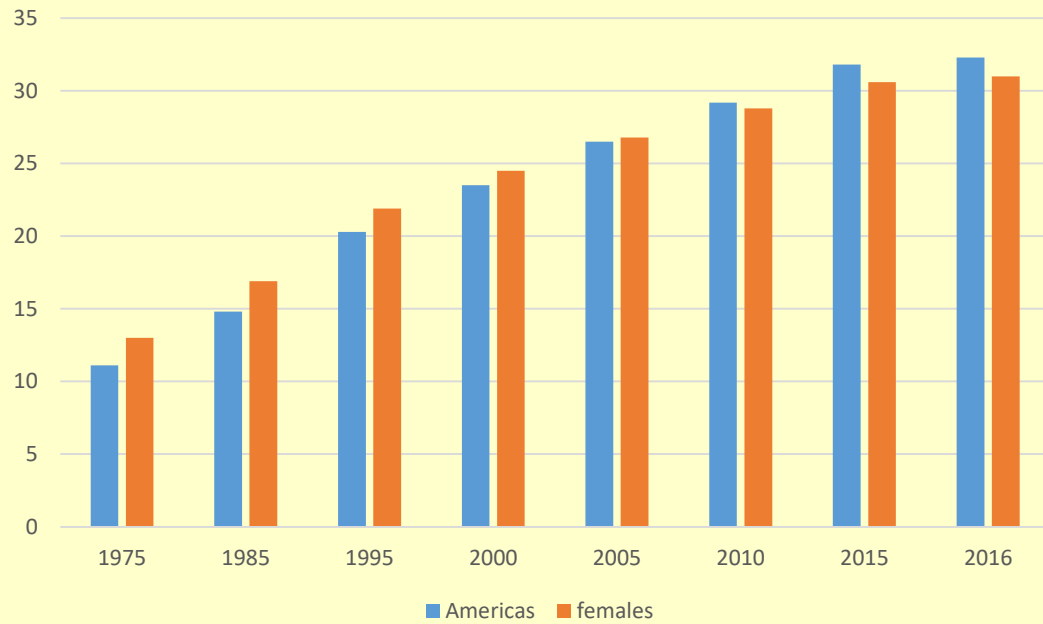


Western Pacific

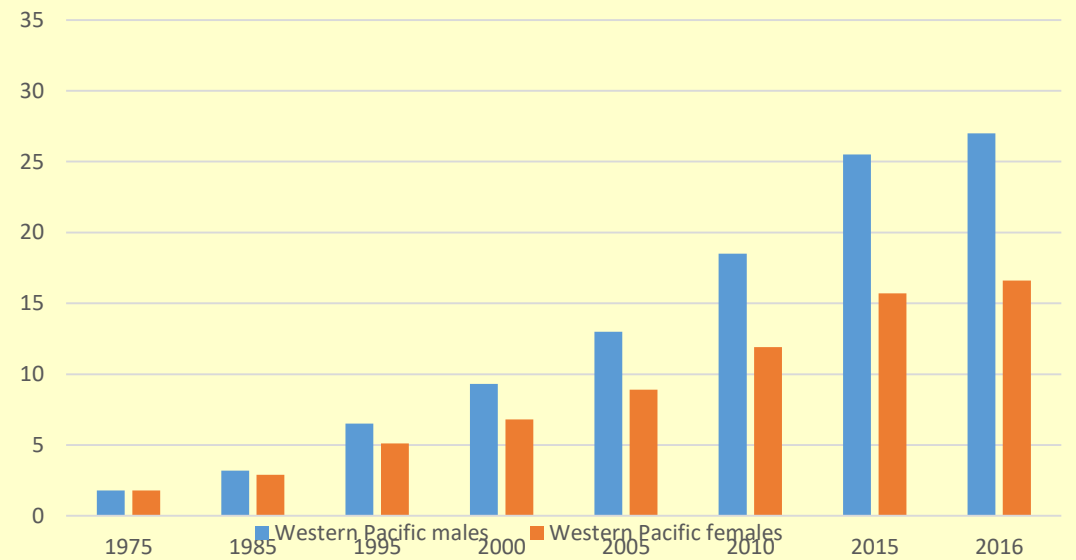


Comparing Boys and Girls – Prevalence of overweight 10-19 years

Americas

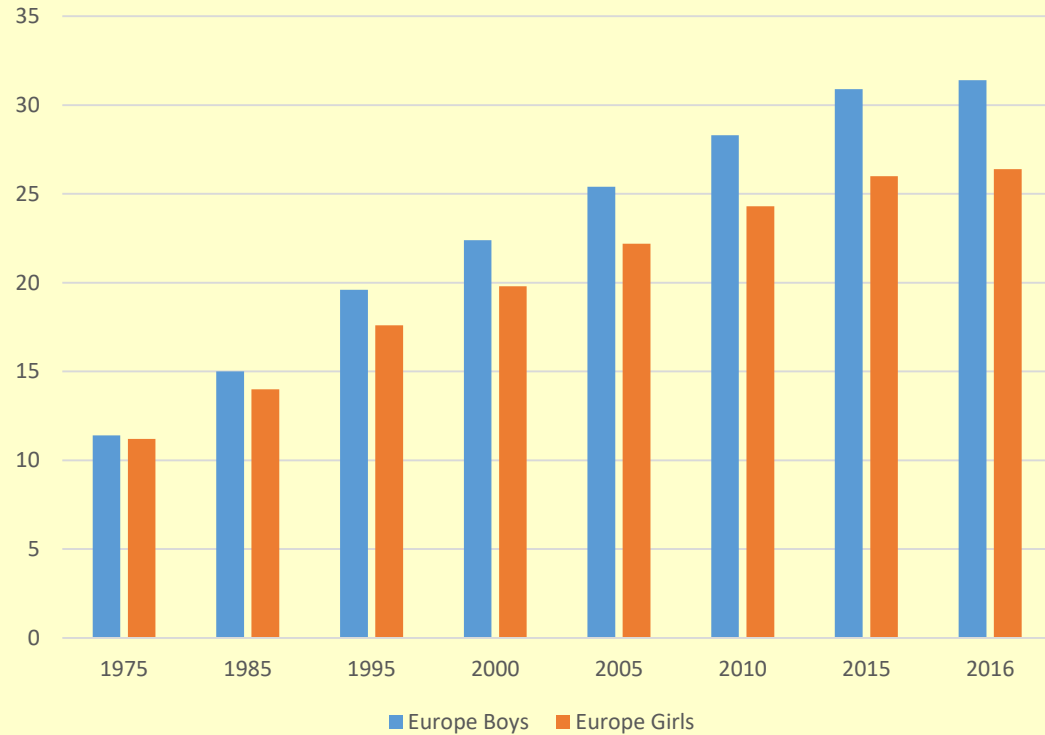


Western Pacific

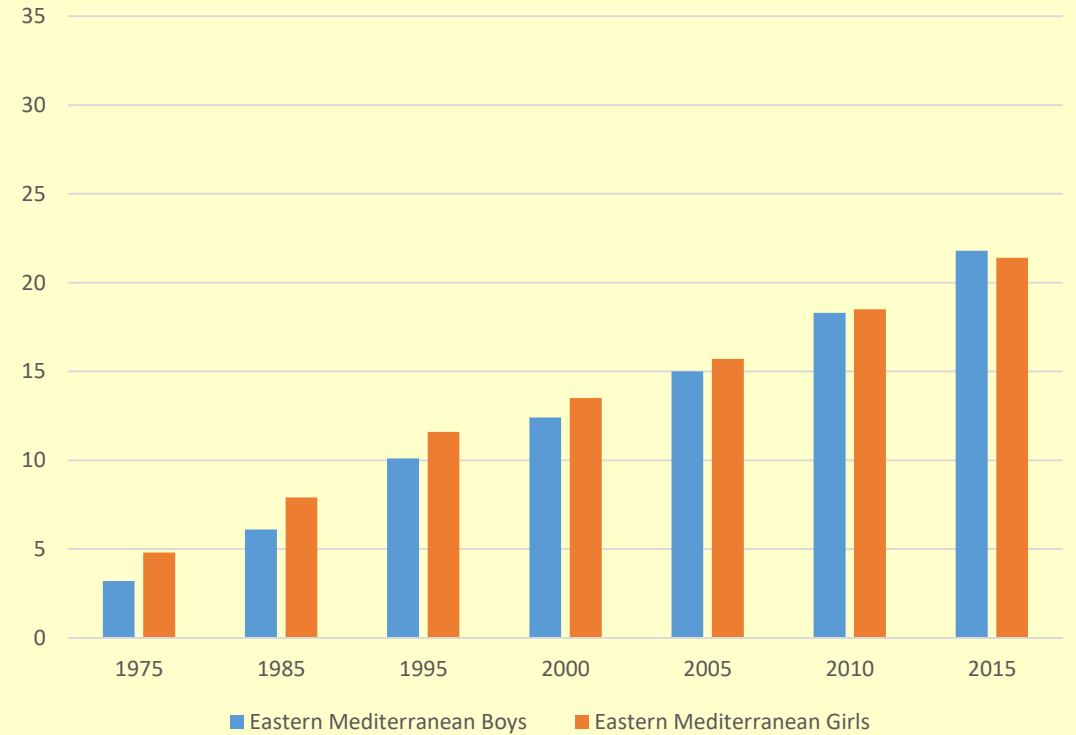


Comparing Boys and Girls – Prevalence of overweight 5-9 years

Europe



Eastern Mediterranean

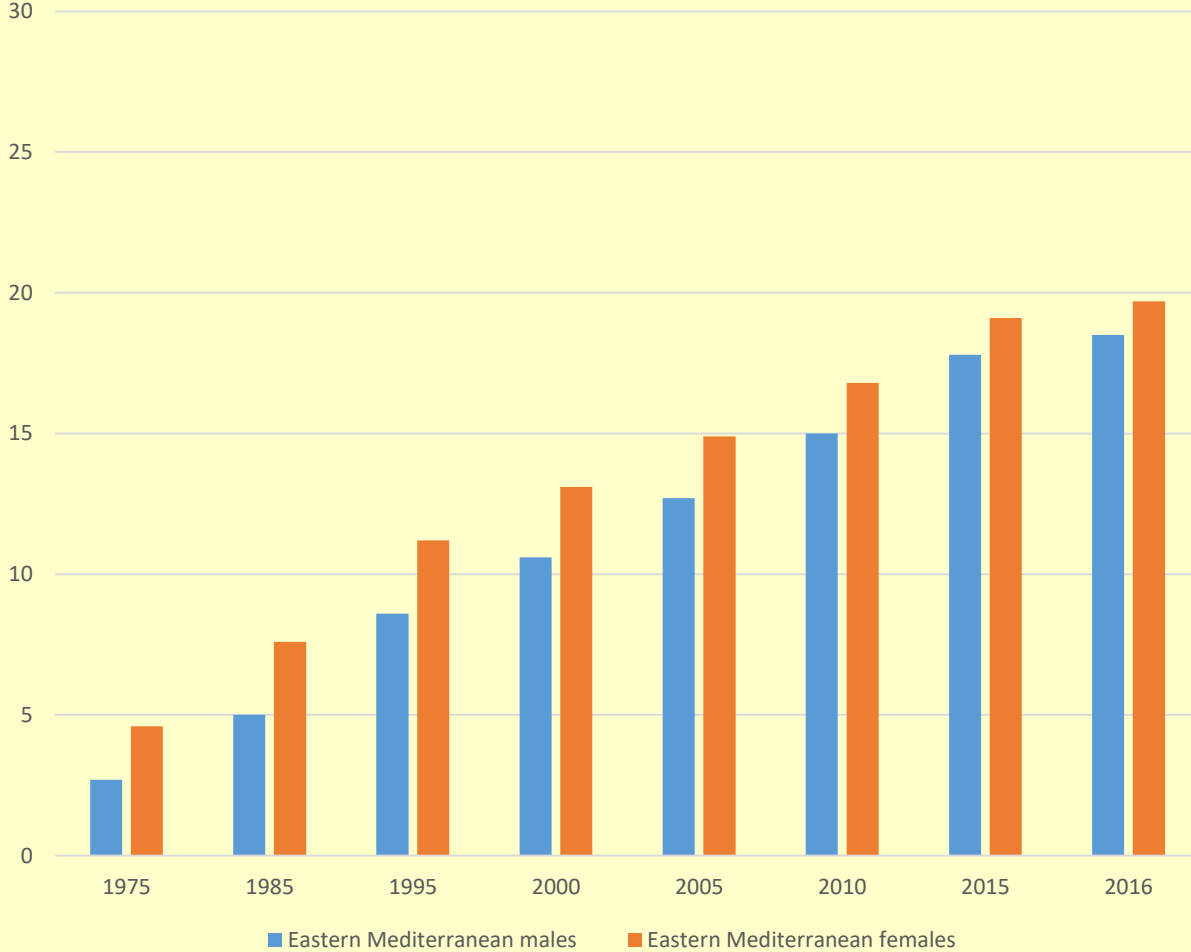


Comparing Boys and Girls – Prevalence of overweight 10-19 years

Europe



Eastern Mediterranean

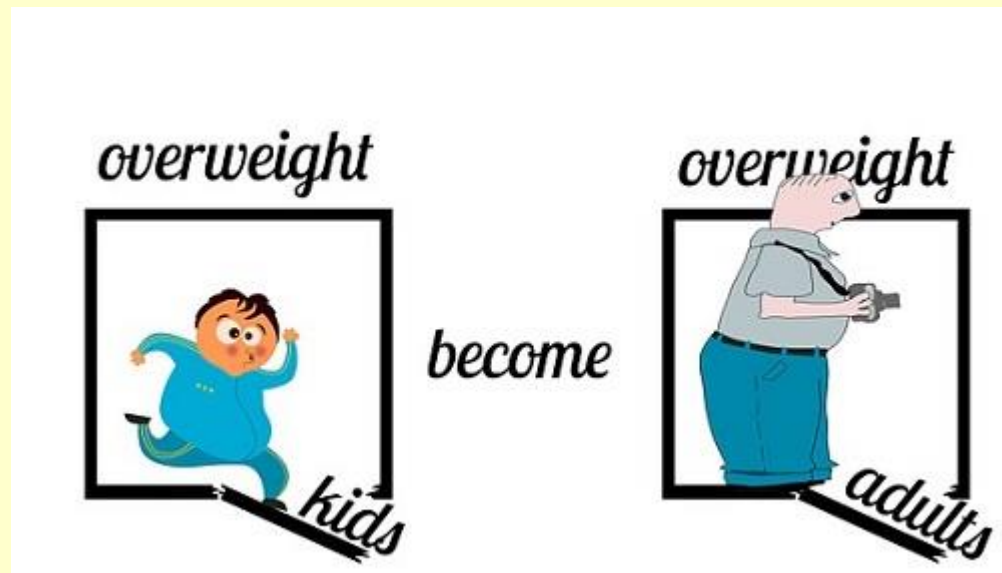


Some recent WHO global estimates

- In 2016, an estimated 41 million children under the age of 5 years were overweight or obese.
- Once considered a high-income country problem, overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings.
- In Africa, the number of overweight children under 5 has increased by nearly 50% since 2000.
- Nearly half of the children under 5 who were overweight or obese in 2016 lived in Asia.

- Over 340 million children and adolescents aged 5-19 were overweight or obese in 2016.
- The prevalence of overweight and obesity among children and adolescents aged 5-19 has risen dramatically from just 4% in 1975 to just over 18% in 2016. The rise has occurred similarly among both boys and girls: in 2016 18% of girls and 19% of boys were overweight.
- While just under 1% of children and adolescents aged 5-19 were obese in 1975, more 124 million children and adolescents (6% of girls and 8% of boys) were obese in 2016.
- Overweight and obesity are linked to more deaths worldwide than underweight. Globally there are more people who are obese than underweight – this occurs in every region except parts of sub-Saharan Africa and Asia.

Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood. In addition to increased future risks, obese children experience breathing difficulties, increased risk of fractures, hypertension, early markers of cardiovascular disease, insulin resistance and psychological effects.



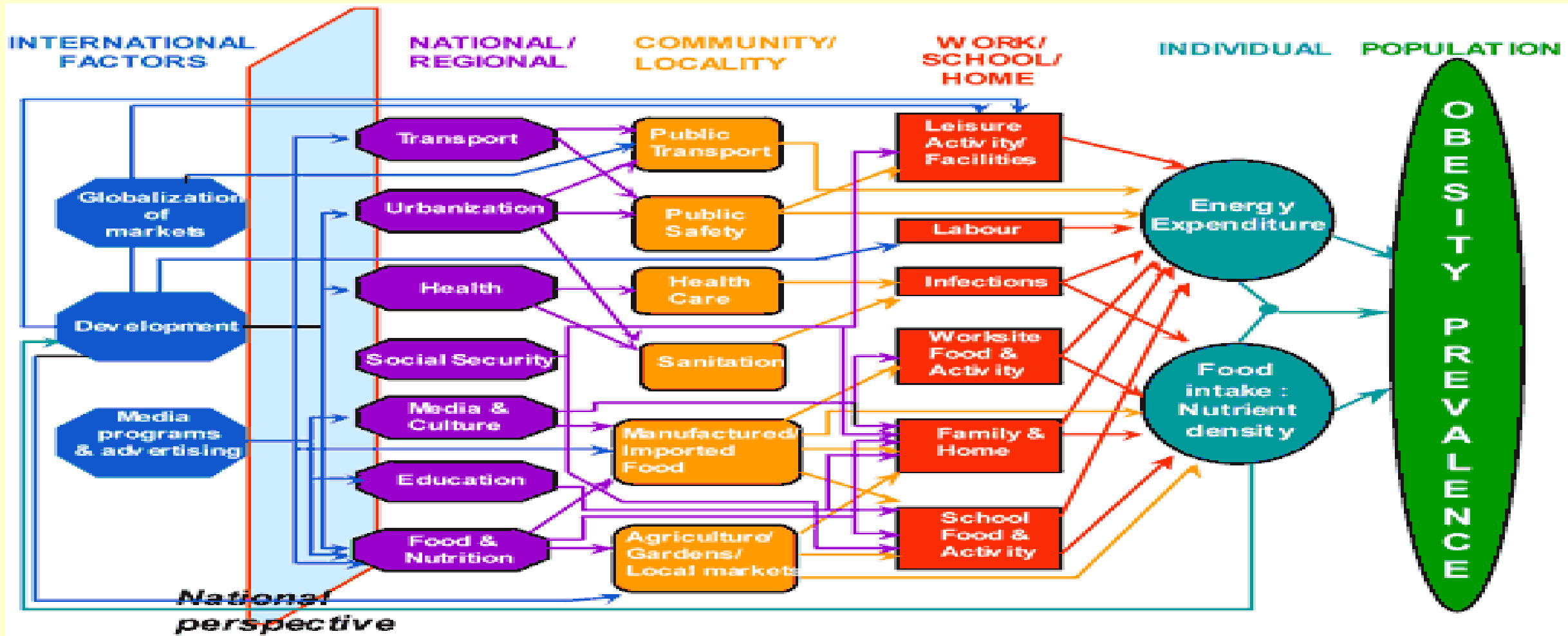
What are common health consequences of overweight and obesity?

Raised BMI is a major risk factor for

- non-communicable diseases which were the leading cause of death in 2012
- diabetes
- musculoskeletal disorders (especially osteoarthritis)
- some cancers (including endometrial, breast, ovarian, prostate, liver, gallbladder, kidney, and colon).
- The risk for these non-communicable diseases increases with increases in BMI.



Factors influencing obesity prevalence



Diverse sectors of society operate at different levels to influence population energy balance. Factors can range from the individual level to the international level, and the sectors of influence include education, agriculture, transportation, urban developments, and media, among others, in addition to the health sector. Research that cuts across these different levels and sectors can be undertaken

Terry T. Huang, Adam Drewnowski, Shiriki K. Kumanyika, and Thomas A. Glass. *A Systems-Oriented Multilevel Framework for Addressing Obesity in the 21st Century* *Prev Chronic Dis.* 2009 Jul; 6(3): A82.

Macroeconomic burden of obesity for selected countries

Country	Year of estimate	Total costs (percent of GDP) ^a
United States	2000	1.2
Canada	2001	0.7
Switzerland	2002	0.6
Germany	1998	0.2
India	1995	1.1
China	1995	2.1

^aGross Domestic Product (GDP) calculations based on 2000 constant US\$ GDP estimates, World Development Indicators, World Bank, Washington DC, 2005. It should be noted that these costs are not directly comparable across studies as a result of methodological differences. But they can be viewed as illustrative of the sizeable and robust impact of epidemic obesity on 'sickness' systems

Source: Epidemiologic and economic consequences of the global epidemics of obesity and diabetes

How can overweight and obesity be reduced?

At the individual level, people can:

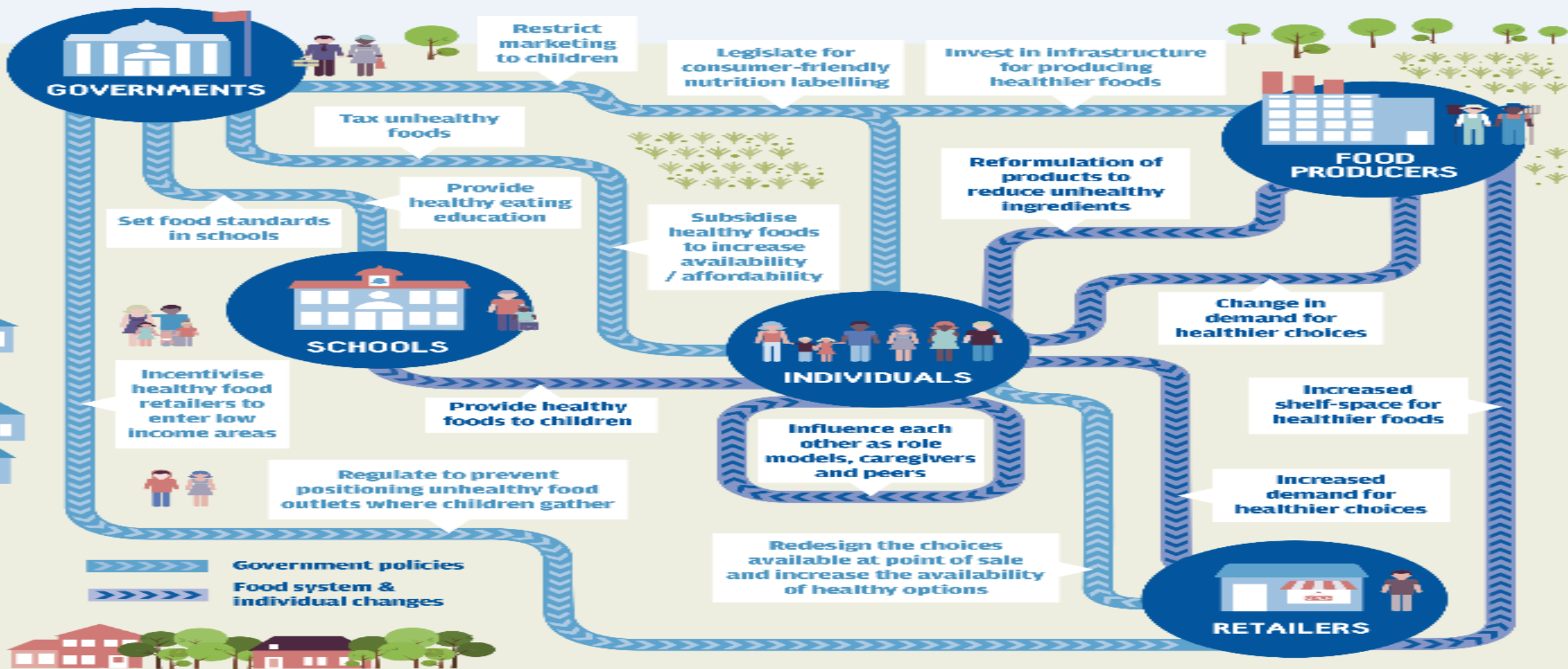
- limit energy intake from total fats and sugars;
 - increase consumption of fruit and vegetables, as well as legumes, whole grains and nuts; and
 - engage in regular physical activity (60 minutes a day for children and 150 minutes spread through the week for adults).
-
- Individual responsibility can only have its full effect where people have access to a healthy lifestyle. Therefore, at the societal level it is important to support individuals in following the recommendations above, through sustained implementation of evidence based and population based policies that make regular physical activity and healthier dietary choices available, affordable and easily accessible to everyone, particularly to the poorest individuals. An example of such a policy is a tax on sugar sweetened beverages.

The food industry can play a significant role in promoting healthy diets by:

- reducing the fat, sugar and salt content of processed foods;
- ensuring that healthy and nutritious choices are available and affordable to all consumers;
- restricting marketing of foods high in sugars, salt and fats, especially those foods aimed at children and teenagers; and
- ensuring the availability of healthy food choices and supporting regular physical activity practice in the workplace.

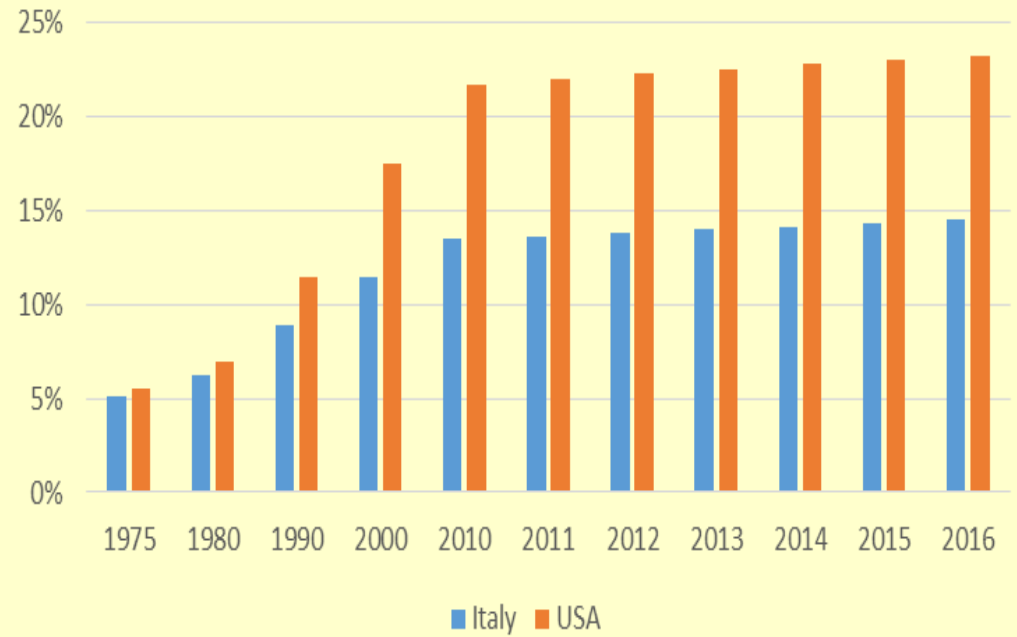
HOW CAN GOVERNMENTS SUPPORT HEALTHY FOOD PREFERENCES?

The food system is an interconnected network of producers, industry, and institutions. But at its heart is the individual. Policy can affect all parts of the network, influencing a cultural shift towards healthier food preferences.





Prevalence of BMI>2SD (obesity)
- Boys, age standardised



**Obese 100-Year-Old Crocodile
Dies From Overeating After
Worshippers Keep Throwing It
Chickens And Goats For Good
Luck**

Childhood

obese disorder

overeating large weight playing treatment reduction waist joints shape

illness

concept gluttony

medical representation loss morning surgery risk enjoyment danger

problems surgical over exercise disease

unhealthy fat

diet warn definition

aerobic running concern

style word

overweight

physical unwell condition dieting teenagers

cardiovascular blood body

lifestyle size stylized food

health

diabetes

hungry slimming losing goal heavy training nutrition

helps