

GUT

10-fold difference worldwide in new cases of, and deaths from, bowel cancer

Rising rates linked to economic development; adoption of Western lifestyle may be to blame

There's a 10-fold difference worldwide in the numbers of new cases of bowel cancer and deaths from the disease, finds research published online in the journal ***Gut***.

International bowel cancer patterns and trends seem to be linked to economic development, the analysis shows, suggesting that the adoption of a Western lifestyle may have a role.

Bowel cancer is the third most commonly diagnosed cancer and the fourth leading cause of cancer death in the world. In 2012 there were an estimated 1.4 million new cases and almost 700,000 associated deaths worldwide.

By 2030, the numbers of new cases are expected to surge to 2.2 million with an associated death toll of 1.1 million.

In a bid to provide a global snapshot of the international distribution of bowel cancer, and the prospects for curbing predicted rises in rates, the researchers extracted data from the GLOBOCAN database on the numbers of new cases and deaths from the disease in 2012 for 184 countries.

They also looked at time trends in 37 countries, using data from 10 volumes of *Cancer Incidence in Five Continents* and the World Health Organisation mortality database.

The estimated rates of new cases in 2012 varied from less than 5 per 100,000 of the population in several African countries to over 40 per 100,000 in certain countries in Europe, Northern America, and Oceania.

Rates in women tended to be around 25% lower than those of men, among whom the highest rates were in Slovakia (61.6), Hungary (58.9), and Korea (58.7). The lowest rates (1.5/100,000) were in sub-Saharan Africa, The Gambia, and Mozambique.

Using information from the United Nations Development Programme, bowel cancer rates were analysed across levels of economic development, referred to as the HDI, for 2012 in all 184 countries.

The higher the HDI, the higher was the incidence of bowel cancer. In countries with a very high HDI the number of new cases was, on average, six times higher than in countries with a very low HDI.

Patterns of deaths from the disease tended to follow those of incidence, although the highest rates tended to be in countries with high, rather than very high, HDI, in central and eastern Europe and in Latin America.

The time trends analysis revealed three distinct groups of countries: those with rising or stable incidence and death rates (group 1, 14 countries); those with rising incidence and falling death rates (group 2, 14 countries); and those with falling incidence and death rates (group 3, 9 countries).

Group 1 included The Philippines, China, Columbia, Bulgaria, Costa Rica, Brazil, Russia, Belarus, Estonia, Lithuania, Croatia, Spain, Latvia, and Poland. Russia, China, Brazil and the Baltics have undergone rapid economic development over the past decade, the researchers note.

Group 2 included Canada, Denmark, Switzerland, Ireland, Sweden, Singapore, Finland, Norway, Slovakia, the UK, Netherlands, Italy, Malta, and Slovenia.

Group 3 included the USA, Austria, New Zealand, Czech Republic, Iceland, France, Japan, Australia and Israel. But in these countries rates remain among some of the highest in the world.

The researchers suggest that the fall in deaths in groups 2 and 3 is partly linked to improved detection and treatment of the disease.

But the findings point to a much greater disease toll in low and middle income countries in the years to come, particularly for emerging economies, they warn.

The study was observational, so it can increase our understanding of possible links between global patterns, economic development and bowel cancer, but it does not prove cause and effect because other factors may play a role.

“The fact that [bowel cancer] has replaced infection related cancers as the second most common cancer in several middle income countries (particularly among women) highlights the major challenge of [bowel cancer] control in countries undergoing significant socioeconomic transition,” they write.

“Without targeted resource dependent actions based on this evidence, the number of patients with bowel cancer will continue to increase in future decades beyond those already projected as a result of population ageing and population growth,” they say.