

Burden of Diet-related Colorectal Cancer in OECD Countries from 1990 to 2021 with Projections to 2050: Findings from Global Burden of Disease Study

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Abstract : Background: Unhealthy diet is a major risk factor for CRC. This study assessed diet-related CRC burden from 1990 to 2021 in Organization for Economic Co-operation and Development (OECD) nations and estimated the burden until 2050. Methods: Data for OECD countries on diet-related CRC disability-adjusted life years (DALYs) and deaths were obtained from the Global Burden of Disease (GBD), 2021. The estimated annual percent change (EAPC) was calculated to analyse the CRC burden attributable to dietary factors. A generalised additive model with negative binomial distribution was used to predict the future burden of CRC attributable to dietary factors from 2021 to 2050. Results: In 2021, the age-standardised percentage of diet-related CRC DALYs and deaths were 39.1% (95% uncertainty interval (UI): 9.3, 61.3) and 39.0% (95% UI: 9.7, 60.9), respectively, in the OECD countries. Between 1990 and 2021, the age-standardised DALYs decreased from 185 to 129 per 100,000, and deaths decreased from 8 to 6 per 100,000 population for OECD countries. Similarly, the EAPC of rates showed a downward trend (EAPCdeaths = -1.26, and EAPCDALYs = -1.20). The estimated diet-related CRC DALYs and deaths are projected to increase to 4.1 million DALYs and 0.2 million deaths by 2050. There has been a downward trend in CRC deaths (EAPC = 1.33 for both sexes) and in DALYs (-0.90 for males and -1.0 for females) from 1990 to 2050. Conclusion: Diet-related CRC burden remains significant. Implementation of nutrition intervention programmes is necessary to promote access to affordable and nutritious foods and to raise awareness about the importance of a healthy diet in reducing CRC risk.

Keywords : colorectal cancer, dietary factor, age-standardized DALYs rate, age-standardized death rate, global burden of diseases

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