Colorectal Cancer

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Colorectal cancer (CRC) is more commonly known as colon cancer or bowel cancer. In the UK, there were over 40 000 cases of CRC diagnosed in 2010, and in 2011, over 15 000 deaths were due to CRC. 45% of patients diagnosed with CRC died within 5 years. Rates of CRC are about 4-5 times higher in more economically developed countries than in less economically developed countries.

Up to 50% of CRC cases may be preventable through improved diets, according to the American Institute for Cancer Research ([?]). Relevant aspects of the diet include:

- Energy content

- Fatty acids

- Fibre

- Phytochemicals

1   Phytochemicals

Phytochemicals are compounds foud in plants that while not essential for human survivial, have been shown to exert beneficial effects upon human health. A list of phytochemicals and their sources is found in Table 1 ([?]):

2   Cruciferous Vegetables and CRC

Cruciferous vegetables have in particular been linked to a variety of anti-cancer effects, which appears to be largely attributable to them being sources of a group of compounds called isothiocyanates (ITCs). A recent systematic review and meta-analysis has corroborated the previous evidence of an inverse correlation

Source	Phytochemical
Turmeric	Curcumin
Chilli peppers	Capsiacin
Green tea	Epigallocatechin-3-gallate
Soy	Genistein
Red grapes/wine	Resveratrol
Garlic	Diallyl sulfide
Broccoli	Sulforaphane

Table 1: A list of phytochemicals whose intakes are inversely correlated with CRC.

between cruciferous vegetable intake and CRC risk ([?]), with an odds ratio (OR) of 0.78. For information about how OR is calculated, see Equation 1.

$$OR = \frac{\frac{Diseased\ and\ Exposed}{Diseased\ and\ Not\ Exposed}}{\frac{Healthy\ and\ Exposed}{Healthy\ and\ Not\ Exposed}} \tag{1}$$
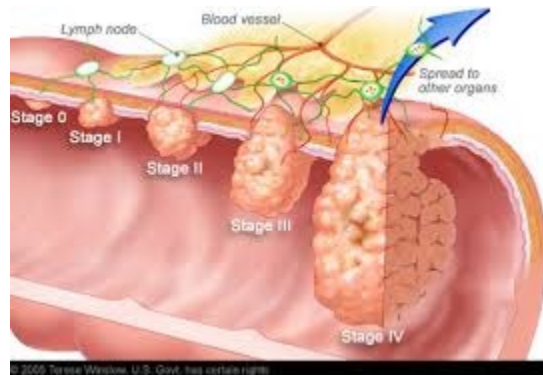

Figure 1: A diagram depicting the different stages of the development of colorectal cancer, according to the classic model of pathogenesis. [?]