



ORIGINAL ARTICLE

# Colorectal cancer in Malaysia: Its burden and implications for a multiethnic country



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## KEYWORDS

burden;  
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review;  
screening

**Summary** *Background:* This study aims to provide an analytical overview of the changing burden of colorectal cancer and highlight the implementable control measures that can help reduce the future burden of colorectal cancer in Malaysia.

*Methods:* We performed a MEDLINE search via OVID with the Medical Subject Headings (MeSH) terms “Colorectal Neoplasms”[Mesh] and “Malaysia”[Mesh], and PubMed with the key words “colorectal cancer” and “Malaysia” from 1990 to 2015 for studies reporting any clinical, societal, and economical findings associated with colorectal cancer in Malaysia. Incidence and mortality data were retrieved from population-based cancer registries/databases.

*Results:* In Malaysia, colorectal cancer is the second most common cancer in males and the third most common cancer in females. The economic burden of colorectal cancer is substantial and is likely to increase over time in Malaysia owing to the current trend in colorectal cancer incidence. In Malaysia, most patients with colorectal cancer have been diagnosed at a late

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stage, with the 5-year relative survival by stage being lower than that in developed Asian countries. Public awareness of the rising incidence of colorectal cancer and the participation rates for colorectal cancer screening are low.

**Conclusion:** The efficiency of different screening approaches must be assessed, and an organized national screening program should be developed in a phased manner. It is essential to maintain a balanced investment in awareness programs targeting general population and primary care providers, focused on increasing the knowledge on symptoms and risk factors of colorectal cancer, awareness on benefits of screening, and promotion of healthy life styles to prevent this important disease.

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## 1. Introduction

Colorectal cancer is the third and second most common cancer, respectively, in men and women worldwide,<sup>1,2</sup> and is a major cause of morbidity and mortality.<sup>1</sup> Mortality due to colorectal cancer is increasing, and it is the fourth leading cause of cancer death in the world.<sup>1</sup> There is wide geographical variation in the incidence of colorectal cancer across the world, and there has been a rapid rise in its incidence in many Asian countries during the past few decades.<sup>1,3</sup> The reported incidence of colorectal cancer is higher in developed Asian countries such as Japan, South Korea, and Singapore than in Malaysia and other developing Asian countries.<sup>4,5</sup> However, the incidence and mortality rates for colorectal cancer in Japan, South Korea, and Singapore have been stable and are even declining, which is similar to the pattern seen in the USA and the UK.<sup>1,2,4,6</sup> This trend may be attributed to colorectal cancer screening programs, reduced prevalence of risk factors, and/or improved treatments in these countries.<sup>2</sup> The improving socioeconomic status and increasingly westernized life style in developing countries in Asia, including Malaysia, could be expected to be associated with an increasing incidence of colorectal cancer.<sup>7</sup> Malaysia is undergoing an aging of its population,<sup>8</sup> with increasing affluence and an increased prevalence of risk factors for colorectal cancer, such as westernized diet, obesity, and smoking.<sup>5,9</sup> As about 80% colorectal cancer cases in Malaysia are diagnosed in people older than 50 years,<sup>10</sup> the aging trend may further increase the prevalence. The majority of colorectal cancer patients in Malaysia present at a late stage with a poor prognosis,<sup>11,12</sup> which can obviously increase the health burden due to the higher treatment cost and poor quality of life in the late stages.<sup>13,14</sup> At present, there is no formal/structured national colorectal cancer screening program in Malaysia.<sup>15</sup> Presently, surgical resection provides the best hope of cure for colorectal cancer patients.<sup>15</sup> Despite its growing burden, colorectal cancer remains a low priority in healthcare planning and expenditure in Malaysia.<sup>16,17</sup> This review aims to provide an analytical overview of the changing burden of colorectal cancer in Malaysia by compiling published data on the clinical, societal, and economic findings associated with the disease. Moreover, this review highlights the implementable control measures that can help reduce the future burden of colorectal cancer in Malaysia.

## 2. Methods

We searched MEDLINE via OVID with the MESH terms “Colorectal Neoplasms”[Mesh] and “Malaysia”[Mesh], and PubMed with the key words “colorectal cancer” and “Malaysia.” Additional articles were identified by reviewing the bibliographies of retrieved articles and hand searching of journals. Publications were limited to human studies published between 1990 and 2015. Only full papers and abstracts published in English were included. For this review, we included studies that reported any clinical, societal, and economical findings associated with colorectal cancer in Malaysia. Incidence and mortality data were retrieved from population-based cancer registries/databases. We also searched the available national cancer registries of individual Asian countries to make a comparison on cancer statistics.

## 3. Results and Discussion

### 3.1. Burden of colorectal cancer in Malaysia

Malaysia, with a population of ~30 million in 2014, is a multiethnic country, with the Malays being the majority, followed by Chinese, Indians, and other indigenous groups.<sup>18</sup> The development of colorectal cancer registry in Malaysia is still not mature. Hence, the assessment of the epidemiology of colorectal cancer in this review is primarily based on the data from GLOBOCAN 2012, existing cancer registries from Malaysia, and publications on colorectal cancer in Malaysia. A total of 67,792 new cancer cases were diagnosed in Peninsular Malaysia in 2003–2005, of which 12% were colorectal cases, giving a total of 8135 colorectal cancers in 3 years and an average of 2712 cases per year.<sup>10</sup> Colorectal cancer is the second and third most commonly diagnosed cancer in males and females, respectively, with an age-standardized rate of 20.9 (male) and 16.8 (female) per 100,000 persons per year in 2003–2005.<sup>10</sup> According to GLOBOCAN 2012 estimates,<sup>1,4</sup> colorectal cancer is the second most common cancer in Malaysia in both males and females, with an age-standardized rate of 18.3 per 100,000 persons per year in 2012 (Table 1), similar to what was seen in the National Cancer Registry in 2003–2005.<sup>10</sup> Although the overall incidence and mortality of colorectal cancer are

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