

Differences in colorectal cancer stage and mortality by ethnicity in Malaysia

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ABSTRACT

Introduction: While ethnicity groups were known to have impact on CRC incidence, little is known about its influence on stage and survival. This study aimed to evaluate the differences in CRC stage and mortality among patients in Northern Malaysia. **Methods:** This cross-sectional study utilised secondary data from the National Cancer Patient Registry-Colorectal Cancer (NPCR-CC) focusing on three northern states i.e. Perlis, Kedah and Pulau Pinang. All CRC cases between January 2008 and December 2017 were included. The data cleaning and analyses were performed using the R Software for Windows version 3.5.11. Descriptive analysis was summarized as frequencies and percentages. Multinomial logistics regression was used to assess the influence of ethnicity on CRC stage at presentation. Multiple Cox Proportional-Hazards regression was used to describe the survival among the ethnicities. **Results:** Malay patients were mostly diagnosed at stage III (OR 1.82) or Stage IV (OR 2.65) ($p < 0.001$), highest among all ethnicities. Among male, Malay was demonstrated to have the highest risk of Stage III and IV (p -value < 0.001) but not for Stage II. Risk of advanced staged cancers by ethnicity was more pronounced for colon compared with rectum and rectosigmoid junction. The overall risk of CRC mortality was highest in Malay (p -value < 0.001). Interestingly, there is no significant difference in risk of mortality across all stages in all ethnicities and gender. **Conclusion:** The findings call attention to the delayed diagnosis of CRC in Malaysia, particularly in the Malay ethnic group.