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Correspondence

Matching for risk factors in case control studies

Sir,

Apropos of article on genetic and environment factors in the aetiology of colorectal cancer in Malaysia[1], the authors need to be complimented. As mentioned in the abstract under the sub-heading "Methods" this was a case control study. A total of 160 Malaysian subjects were recruited, including both colorectal cancer cases (CRC) and controls. The inclusion criteria for controls were: Malaysians aged more than 18 yr who had never been diagnosed with any cancer and did not have a family history of any cancers. However, I have a few concerns regarding the methodology adopted by the authors. The authors have taken into account (by way of exclusion) diagnosis of any malignancy and chronic illnesses before or after recruitment and they have matched controls to cases based on their gender, age, ethnicity and smoking status.

The outcome of this study would have been useful for programme implementers and clinicians if other factors influencing the outcome were incorporated in the study. This could have been achieved by matching the following factors among cases or controls or accounting for them post-hoc at the time of analysis:

For example, a large body of evidence indicates that several dietary and lifestyle factors are likely to have a major influence on the risk of colorectal cancer. Consumption of processed or red meat, especially when cooked at high temperatures is associated with increased risk of colorectal cancer[2]. Diets high in lipids, especially animal fat increase the risk of colorectal cancer. Also the pooled relative risk of colorectal cancers for the obese versus normal categories of BMI (body mass index) was 1.351 for studies conducted in Asia[3]. Further, the risk of individuals with diabetes to develop colorectal cancer is 1.22 times higher than that of individuals without diabetes[4].

Modifiable non dietary factors like cigarette smoking has been matched for in the present study but the authors have not considered alcohol use for the same. Alcohol consumption is significantly associated with increased risk of colon cancer[5]. All these risk factors should have been matched by taking the dietary history, personal history (for heavy drinkers), medical history (for diabetes) and anthropometric measurements to calculate BMI (to rule out obesity). Matching would have ensured that the controls were similar to the cases with regard to variables that could confound the outcome of the study.

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