

Dietary Influences on Gastrointestinal Tract Cancers: A Comparative Study in the Adult Population of Colombo District, Sri Lanka

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Gastrointestinal (GI) tract cancers are an increasing public health burden in Sri Lanka. While dietary habits are recognized as modifiable risk factors, region-specific evidence is limited. Understanding the dietary influences on GI tract cancers is essential for developing targeted public health interventions. This study aimed to examine the association between dietary patterns and the development of GI tract cancers, comparing food consumption habits between GI cancer patients and non-cancerous individuals. It also explored how these habits interact with lifestyle and demographic risk factors. A case-control study using a mixed-methods approach was conducted with 100 adults in Colombo district (50 GI cancer patients and 50 non-cancerous controls), selected through purposive sampling. Sample size was determined using G-Power software to ensure adequate statistical power. Data collection employed a validated Food Frequency Questionnaire (FFQ) available in Sinhala, Tamil and English. Quantitative data were analyzed using SPSS (Version 29), with Chi-square tests and Independent Sample T-tests used to assess group differences. Thematic analysis was applied to qualitative responses to explore cultural and behavioral influences on dietary practices. Cancer patients showed significantly higher consumption of red meat ($p < 0.001$), deep-fried foods ($p < 0.05$), sugary biscuits ($p < 0.01$), and white bread ($p < 0.05$), along with lower intake of vegetables ($p < 0.05$). In contrast, non-cancerous participants consumed more brown bread ($p = 0.004$) and fruits ($p = 0.001$). Alcohol use and smoking were also significantly associated with GI cancer prevalence ($p = 0.000$). Qualitative findings revealed limited dietary awareness and strong cultural influences on food choices among cancer patients. This study demonstrates a clear correlation between unhealthy dietary patterns and GI tract cancer risk in Colombo district. The findings underscore the urgent need for dietary awareness programs and preventive strategies in cancer control efforts. This localized evidence contributes to national and regional public health planning and nutrition-based cancer prevention.

Keywords: Gastrointestinal cancers, dietary habits, case-control study, mixed-methods, Sri Lanka