Uncovering lifestyle gaps in cancer risk: A focus on body weight and movement

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ABSTRACT

Introduction: Body Mass Index (BMI) and Physical activity are key lifestyle indicators that are associated with the risk of developing non-communicable diseases (NCDs) including cancer. Early identification of these risk factors through community engagements are essential for prevention strategies. Health screening booths conducted by National Cancer Society Malaysia (NCSM) offer an accessible platform to educate the public and collect data on preventive health indicators. **Objective:** To determine the BMI and physical activity levels among individuals who participated in cancer risk assessments at NCSM health screening booths and community events and public exhibitions from 2023 to 2024. **Materials and Methods:** A cross-sectional cancer risk assessment was conducted at health screening events and public educational booths organized by NCSM. Participants completed a self-administered digital questionnaire via a QR code on their mobile devices. The survey captured lifestyle related cancer risk factors and demographic data. Descriptive analysis, Multivariate analysis of variance (MANOVA) and post-hoc tests were conducted using SPSS. **Results:** Out of 1,000 participants in the cancer risk assessments, 63% were classified as overweight or obese and 41% reported as low levels of physical activity. MANOVA revealed significant effects of age group ($p < 0.001$) and ethnicity ($p = 0.003$) on the combined outcomes of BMI and physical activity levels. Higher BMI was observed among older individuals ($p < 0.001$). Post hoc test reported 10-20 years and 21-30 years had a significant low BMI. Physical activity levels did not vary significantly by gender or ethnicity. However, a significant age-related difference was observed in 61-70 years reported significantly lower physical activity levels ($p=0.004$). **Conclusion:** BMI varied significantly across age groups and ethnicity revealing key demographic trends in lifestyle related cancer risk while physical levels remained uniformly low. NCSM screening booths are essential in identifying at-risk individuals and supporting national prevention efforts.

Keywords: Cancer risk assessment, body mass index, physical activity, lifestyle factors, non-communicable diseases