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Unequal Burden: Disparities in Financial Toxicity Among Cancer Patients in an Upper Middle-Income Nation Making Good Progress towards Universal Health Coverage

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Background: Malaysia, an upper-middle income nation progressing towards universal health coverage has diverse cultures, geographies, and economies, particularly across Peninsular Malaysia (West: WM) and East Malaysia (EM) on Borneo Island. The disparities are expected to increase the risk of financial toxicity (FT) in EM.

Aim: We assessed the prevalence of FT among cancer patients across Malaysia, examining disparities between WM and EM, and the identifying contributing factors were examined.

Methods: From April 2021 to March 2022, 1203 adults diagnosed with cancer in the past fiveyears were surveyed at tertiary hospitals in WM (Hospital Kuala Lumpur, Hospital Ampang, Universiti Malaya Medical Centre, Subang Jaya Medical Centre) and EM (Sarawak General Hospital, Hospital Likas). Data on sociodemographic, clinical characteristics, financial status over the past six months, and whether household income met basic needs were collected. FT was measured using the validated Comprehensive Score for Financial Toxicity (COST) questionnaire, with lower scores indicating higher FT (scores 0-44, cut-off <14: severe FT).

Results: Most respondents were from WM (70.5%) and public hospitals (61.3%). The majority were low-income (65%; 59% [WM] vs. 79% [EM]). The proportion who were employed was low (overall: 32%; 34% [WM] vs. 26% [EM]), and only 27.5% had private health insurance (PHI); 35.4% [WM] vs. 8.5% [EM]. Although similar proportions met basic needs (>90%), more patients in EM perceived their financial status as "poor" or "very poor" (17.8% vs. 8.5% [WM]). A higher percentage of EM patients experienced reduced income post-diagnosis (64.5% vs. 28.8% [WM]). Median COST scores were higher in WM (25) than in EM (19). Severe FT was present in 22% of patients, with a higher prevalence in EM (36.3% vs. 16.3% [WM]). Nearly half of Sarawak's indigenous ethnic patients experienced severe FT (48.1%). Univariable analysis showed that patients from EM were 3 times more likely to be associated with severe FT. Apart from the region; age, gender, ethnicity, education, household income, hospital type, and employment status were significantly associated with severe FT but not marital status, PHI, cancer site, time since diagnosis, and stage. Patients from EM remain significantly associated with a higher risk of severe FT following multivariable analysis (OR:2.6,95%CI [1.43,4.67]). Stepwise adjustment further showed that socioeconomic factors and hospital type largely explained this disparity.

Conclusion: One-fifth of Malaysians experience severe FT following cancer, with higher financial vulnerability in EM. Interventions such as strengthening social safety nets and implementing financial navigation services can be highly effective especially for low-income populations to ensure equitable cancer outcomes across Malaysia.