

RESEARCH ARTICLE

Editorial Process: Submission:06/16/2020 Acceptance:10/16/2020

# Assessing the Relationship between Socio-demographic, Clinical Profile and Financial Toxicity: Evidence from Cancer Survivors in Sarawak

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## Abstract

**Background:** Patient's financial ability is always the most critical imputes to treatment choice and adherence; as it translates into health outcomes such as survival rate and quality of life. Cancer care is likely to affect the patient's financial well-being, putting huge financial pressure to the families. Therefore, it is imperative to understand the confounding factors of financial toxicity among cancer survivors along the course of survivorship. **Methods:** This study was designed in the form of cross-sectional analysis, in which, cancer survivors were recruited from the Sarawak General Hospital, the largest tertiary and referral public hospital in Sarawak. To capture the financial toxicity of the cancer survivors, the Comprehensive Score for Financial Toxicity (COST) instrument in its validated form was adopted. Multivariable logistic regression analysis was applied to determine the relationship between financial toxicity (FT) and its predictors. **Results:** The median age of the 461 cancer survivors was 56 while the median score of COST was 22.0. Besides, finding from multivariable logistic regression revealed that low income households (OR: 6.893, 95% CI, 3.109-15.281) were susceptible to higher risk of financial toxicity, while elderly survivors above 50 years old reported a lower risk in financial toxicity. Also, survivors with secondary schooling (OR:0.240; 95%CI, 0.110-0.519) and above [College or university (OR: 0.242; 95% CI, 0.090-0.646)] suffer a lower risk of FT. **Conclusion:** Financial toxicity was found to be associated with survivors age, household income and educational level. In the context of cancer treatment within public health facility, younger survivors, households from B40 group and individual with educational attainment below the first level schooling in the Malaysian system of education are prone to greater financial toxicity. Therefore, it is crucial for healthcare policymakers and clinicians to deliberate the plausible risk of financial toxicity borne by the patient amidst the treatment process.

**Keywords:** Cancer- financial toxicity- socio-demographic- clinical profile- cancer survivors

*Asian Pac J Cancer Prev*, 21 (10), 3077-3083

## Introduction

Cancer is a chronic disease that exhibits a huge global health concern. According to World Health Organization (2018), cancer accounts for 9.6 million global deaths. It is estimated that one in six deaths is due to cancer. Common cancers worldwide include lung, breast, colorectal, prostate and stomach cancers. In Malaysia, it is estimated that one in four Malaysian is suffering from cancer (Akhtari-Zavare et al., 2018). The five most common cancers include breast, colorectal, lung, lymphoma and nasopharyngeal cancer as reported in the Malaysian National Cancer Registry Report 2012-2016 (Azizah et al., 2019). In that period of time, there was 11.3% increase (or 103,507 new cases) in the incidence of cancer (Azizah et al., 2019).

Besides that, out-of-pocket expenditure will cause the

inequality of financial toxicity (FT) of cancer survivors (Zhu et al., 2020). FT describes the financial burden of cancer care faced by patients and their family members (Zafar et al., 2013). In this regard, cancer will lead to psychological, economic and financial consequences, including emotional impact on the quality of life, the need for financial adjustment, reduced workforce participation as well as bearing the cost of the cancer treatment and other treatment-related cost (Sharp et al., 2013). These financial burdens will cause some patients and their families to fall into debt or poverty, and imposed high level of distress along the treatment process (Kimma et al., 2012; Chang et al., 2013).

Past studies revealed that treatment-related financial burden is recognized as a barrier to the provision of high-quality care (Stump et al., 2013; Zafar et al., 2013).

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