

Cancer survival: Life regained

The Global action plan for the prevention and control of noncommunicable diseases (Global NCD Action Plan) was adopted at the 66th World Health Assembly in May 2013, which included a set of nine voluntary global targets. The first of the nine targets that are to be attained by the year 2025 is to have a relative reduction of 25% in the overall mortality from cardiovascular disease, cancers, diabetes, or chronic respiratory diseases.⁶ Though modifying and avoiding key risk factors could prevent more than 30% of cancer deaths, mortality from cancer can be further reduced if cases are detected and treated early.⁷

The four measures of cancer outcome; incidence, survival, mortality and prevalence have different functions to determine the impact from the efficacy of planning services to understanding the size of population affected by cancer. Of the four, survival as a measure of outcome is used commonly to monitor the performance of a health system in treating cancer.

Cancer survival is a key index of the overall effectiveness of health services in the management of patients with cancer. Persistent difference in survival between a centre's performance and a reference population's or benchmark results, represents many avoidable deaths.

Studies have found that a combination of factors explain international differences in cancer survival rates. These can be broadly classified into stage at diagnosis and diagnostic delay, treatment factors (including access to treatment, proportion of patients treated with the intention to cure and the effectiveness of the provided treatment), patient factors (e.g. age and co-morbidities) and tumour biology and physiological factors.⁸

The aims of a healthcare system are to provide services that are safe, effective, patient centred and of value. Healthcare performance measurement then evaluates the extent to which the health services rendered to patients meet these aims. These measurements are intended to serve accountability purposes and to promote improvements in the delivery of care.

Subang Jaya Medical Centre is among the first hospitals in Malaysia to embark on a routine measurement of the performance of its cancer care services.

Measuring SJMC's cancer care service performance

A single-centre, observational cohort study to estimate the survival outcome of patients diagnosed with breast cancer in SJMC between 2008 and 2012 was conducted after approval from the Ministry of Health's Medical and Research Ethics Committee. The final study population consisted of 675 Malaysian women with pathologically confirmed primary breast cancer diagnosed between 2008 and 2012, and treated with at least one treatment modality at SJMC.

For cancer survival outcome performance, results are expressed as overall survival and relative survival. Relative survival shows the extent to which cancer shortens life compared to the general population while age standardised five-year relative survival is used for comparison of survival outcome between this study population and other centres' or registry populations; in this report the International Cancer Survival Standard was used.⁹

For patients first presenting to SJMC only, it took a median of 6 days to arrive at a diagnosis.

Of the 675 patients treated at SJMC between 2008 and 2012, 553 (82%) patients had surgery but only 30% of these were breast conserving surgery. 346 (51%) patients had radiotherapy and 307 (66%) had chemotherapy. 346 (73%) of 471 ER+ or PR+ patients had hormonal therapy and 42 (22%) of 189 HER2+ patients received Trastuzumab treatment.

Results

Overall survival at 5 years was 98% for patients with Stage I disease, decreasing to 36% for Stage IV disease. More impressively, the relative survival of Stage I disease at 5 years was 101% indicating these patients were practically cured of their cancers. For Stage II disease, the relative survival at 5 years was 95%, which is no less remarkable. These results showed that SJMC has accomplished similar if not better results than established centres of excellence in the world, such as the Cleveland Clinic (Figures 2 & 3). This is close to the benchmark of 95% set for cancer care performance results.

Comparative performance between SJMC and Cleveland Clinic in terms of overall survival outcome of patients with breast cancer

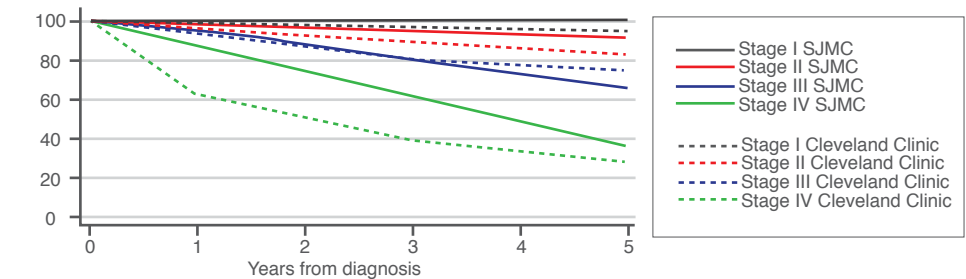


Figure 2

Comparative performance between SJMC and Cleveland Clinic in terms of relative survival outcome of patients with breast cancer

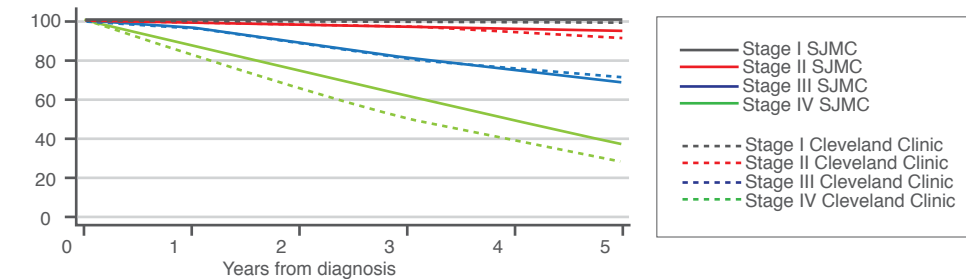


Figure 3

Results on age standardised relative survival at 5 years are available from Surveillance, Epidemiology and End Results (SEER) database¹⁰ (2003-2011), an often used reference population in cancer epidemiologic research. For all cancer stages, SJMC results are clearly superior to the average results accomplished by all cancer centres in the United States (US), as reported in the SEER registry.

Comparison of age standardised five-year relative survival between patients treated at SJMC and SEER

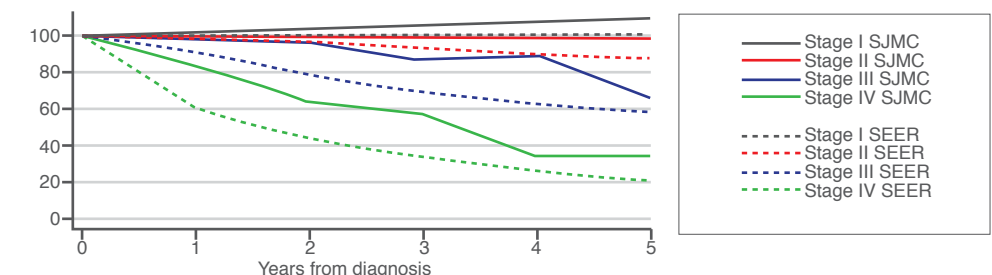


Figure 4