Breast Cancer Incidence, Mortality and Relative Survival Trends in Latvia in 1993–2014

Una Kojalo [1], *Girts Brigis* [2], *Santa Pildava* [3], *Kaire Innos* [4]

[1] *Rīga Stradiņš University, Statistical Laboratory, Latvia*
[2] *Rīga Stradiņš University, Department of Public Health and Epidemiology, Latvia*
[3] *Centre for Disease Prevention and Control, Department of Research and Health Statistics, Latvia*
[4] *National Institute for Health Development, Latvia*

Introduction. Breast cancer is one of the most common cancer forms in Latvian females and most frequent cause of cancer death among women. Despite the fact that mortality is slightly decreasing, survival from breast cancer in Latvia has been consistently among the lowest in Europe.

Aim, Materials and Methods. The aim of this study is to examine most recent trends in breast cancer incidence, mortality and relative survival in Latvia by age groups and cancer stage.

The study included data obtained from the Latvian cancer registry. The sample included 21 370 female patients with diagnosed and histologically confirmed breast cancer during the period between 1993 and 2014. Data from the Latvian Death causes database used for the mortality estimates. Age-standardized incidence and mortality rates were calculated by direct standardization method using world standard population. Incidence and mortality changes were detected with joint point regression method using the National Cancer Institute program Joinpoint Software 4.3.1.0. Relative survival ratios (RSR) were calculated for the time periods 1993–1999, 2000–2004 and 2005–2009. Period survival analysis approach was used to obtain the most recent, 2010–2014, estimates. Data was processed using IBM SPSS Statistics and Stata softwares.

Results. Breast cancer incidence in Latvia increased on average by 1.6 % (95 % CI: 1.2–1.9 %) annually without any significant changes in the trend line, but mortality on average has been steady declined by 0.4 % (95 % CI: 0–0.9 %) annually. Most rapid rise of incidence has been in older age group (> 70). Overall, age-standardized five-year RSR increased from 63.9 % in 1993–1999 to 77.2 % in 2010–2014. Age group 60–69 experienced a more rapid improvement compared to the rest of the study group – 14.3 % in 5-year survival and 16.0 % for 10-year survival. Significant survival increase was observed for advanced cancer stages – by 15 % for the 5-year survival and 13 % for 10-year survival. For localised cancer forms – 10.6 % and 12.2 %, respectively.

Conclusions. No significant joint points in the incidence and mortality trends were observed during the study period. Considerable improvement in breast cancer survival has been observed in the last 22 years. However, survival improvement among women below 60 is lagging behind other countries. Relative survival prognosis for the time period 2010–2014 is still among the lowest in Europe.