We explored socioeconomic and demographic disparities in breast cancer (BC) stage at presentation and survival in a Swiss population-based sample of female BC patients linked to the census-based Swiss National Cohort. Tumor stage was classified according to Surveillance, Epidemiology and End Results Program summary stage (in situ/localized/regional/distant). We used highest education level attained to estimate SEP (low/middle/high). Further demographic characteristics of interest were age at presentation (30–49/50–69/70–84 years), living in a canton with organized screening (yes/no), urbanity of residence (urban/peri-urban/rural), civil status (single/married/widowed/divorced) and nationality (Swiss/non-Swiss). We used ordered logistic regression models to analyze factors associated with BC stage at presentation and competing risk regression models for factors associated with survival. Odds of later-stage BC were significantly increased for low SEP women (odds ratio 1.19, 95%CI 1.06–1.34) compared to women of high SEP. Further, women living in a canton without organized screening program, women diagnosed outside the targeted screening age and single/widowed/divorced women were more often diagnosed at later stages. Women of low SEP experienced an increased risk of dying from BC (sub-hazard ratio 1.22, 95%CI 1.05–1.43) compared to women of high SEP. Notably, these survival inequalities could not be explained by socioeconomic differences in stage at presentation and/or other sociodemographic factors. It is concerning that these social gradients have been observed in a country with universal health insurance coverage, high health expenditures and one of the highest life expectancies in the world.

Breast cancer (BC) is the most common cancer in Swiss women. In Switzerland, each year ~5,700 women are newly diagnosed with BC and the lifetime risk of developing BC is almost 13%. Although mortality has fallen consistently over the last 30 years, BC is the leading cause of cancer death in Swiss women with ~1,400 women dying each year of this disease. Tumor stage at presentation remains one of the major prognostics factors and women with early stage BC are expected to have excellent survival rates. In a recent Swiss study, age-standardized 10-year relative survival varied from 9.3% (Stage IV) to 94.5% (Stage I) depending on stage at presentation.

Key words: health inequalities, breast cancer, incidence, survival, socioeconomic position

Abbreviations: 95%CI: 95% confidence interval; %DCO: percentage of death certificate only cases; FSO: Federal Statistical Office; ICD-10: International statistical classification of diseases and related health problems; NICER: National Institute for Cancer Epidemiology and Registration; OR: odds ratio; PY: Person-years; SEER: surveillance, epidemiology and end results program; SEP: socioeconomic position; SHR: sub-hazard ratio; SNC: Swiss National Cohort; TNM: tumor, node and metastasis staging information

Additional Supporting Information may be found in the online version of this article.

DOI: 10.1002/ijc.30856

History: Received 28 Mar 2017; Accepted 7 June 2017; Online 28 June 2017

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