

# Survival after breast cancer in younger women in Switzerland

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## BACKGROUND

In developed countries, breast cancer (BC) is the most frequent cancer in women aged less than 40 years. It accounts for 30-40% of all female cancers and is the leading cause of cancer death for young women.

Previous studies reported that young women were diagnosed with more advanced and aggressive tumours and showed lower survival compared to their older counterparts [1]. However, Swiss studies investigating breast cancer survival found no significant survival differences between very young and younger women [2,3].

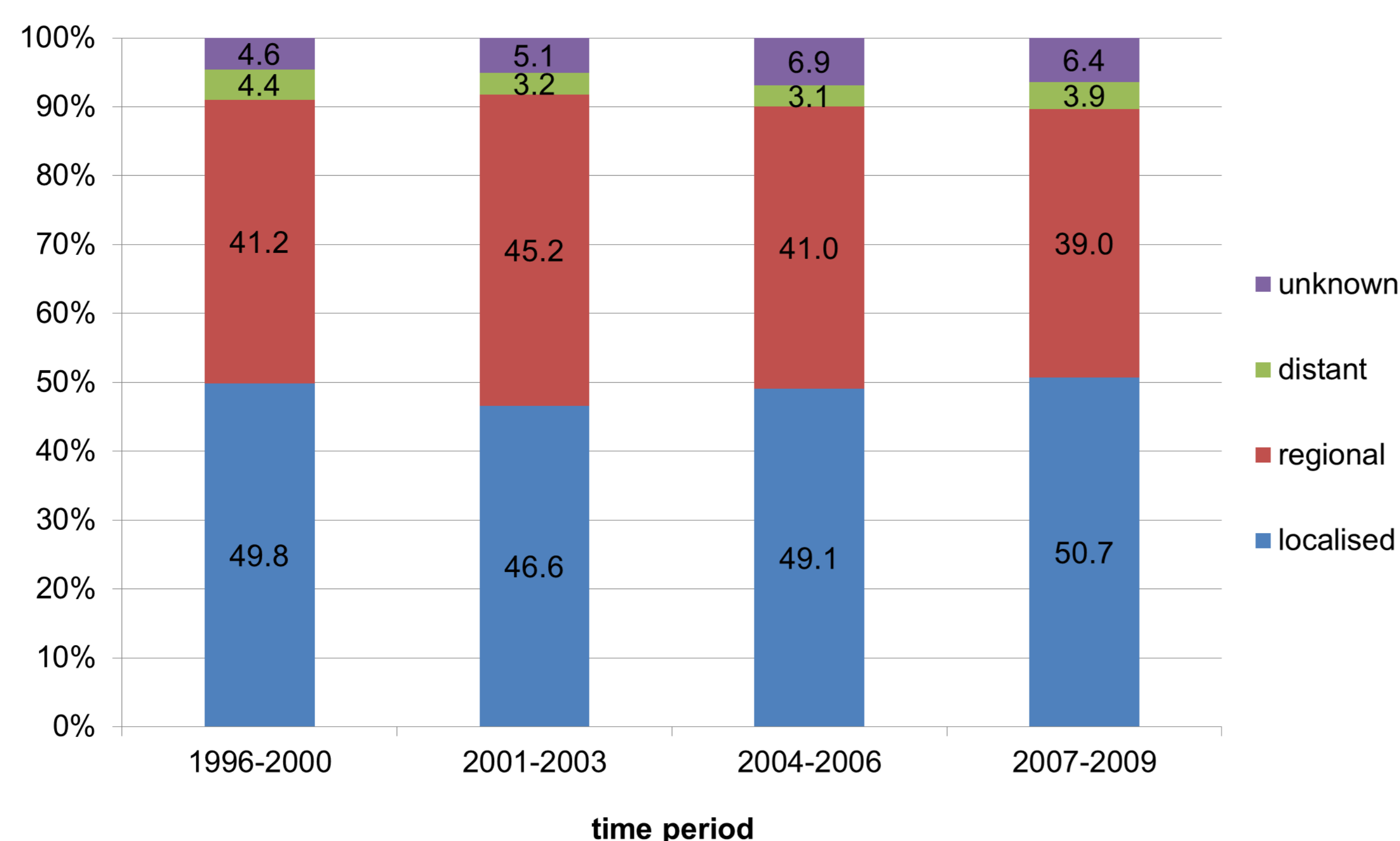
## DATA & METHODS

Data on BC cases diagnosed before the age of 50 years were obtained from 11 Swiss cancer registries (CRs) for the incidence years 1996-2009. SEER summary stage was calculated based on TNM classification system.

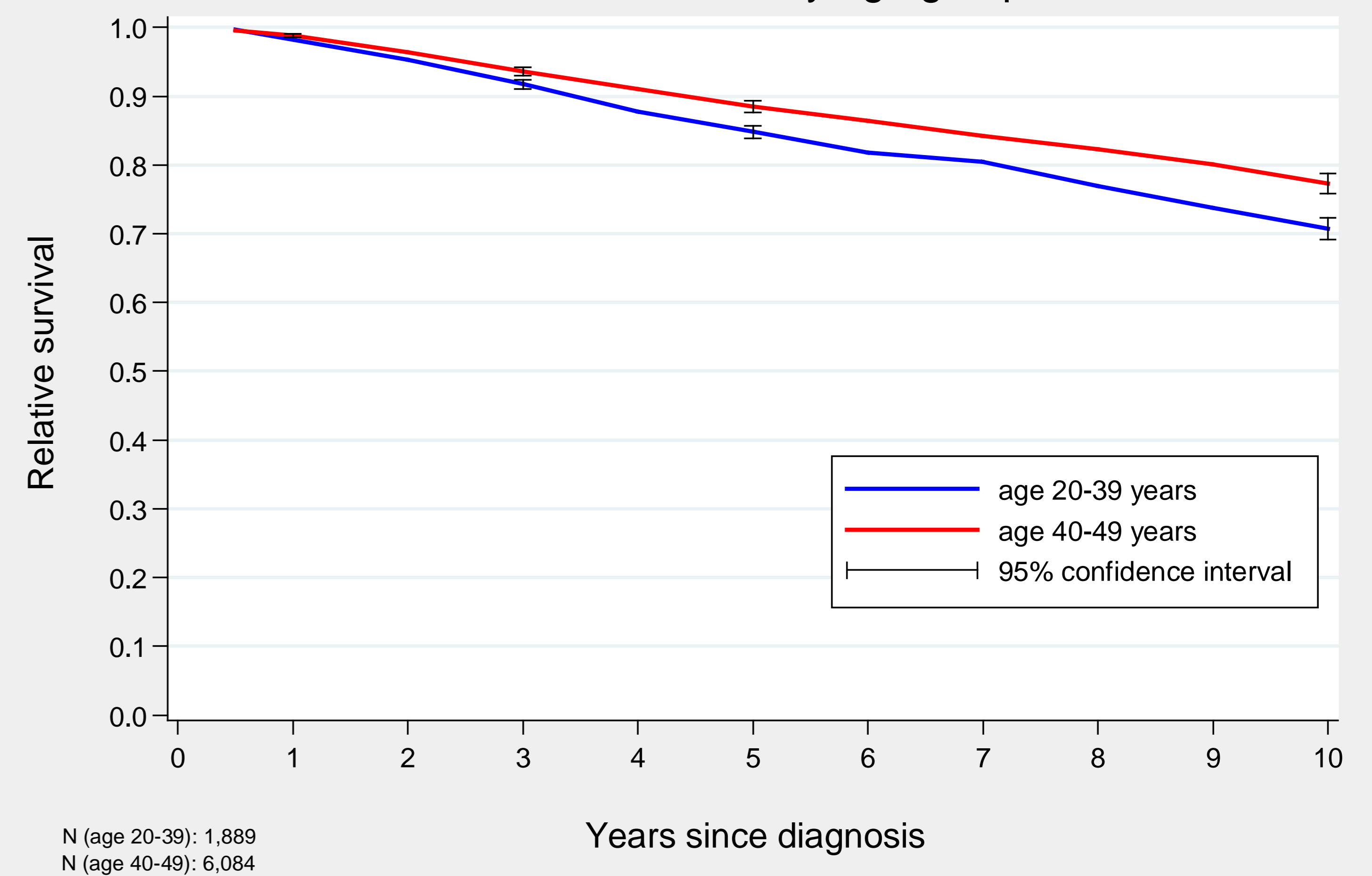
Relative survival (RS) was estimated by dividing the observed survival (OS) after diagnosis by the survival as expected in the general female population based on all cases diagnosed between 1996-2009 (complete analyses). OS and RS probabilities were calculated for consecutive time intervals up to 10 years after diagnosis (age-groups 20-39, 40-49 and 20-49 years).

## RESULTS

Distribution of incident breast cancer cases by stage



Relative survival by age group



\* based on CRs providing vital status follow-up (10 out of 11 CRs)

|                  | N*    | 5-year survival |             | 10-year survival |             |
|------------------|-------|-----------------|-------------|------------------|-------------|
|                  |       | RS%             | [95% CI]    | RS%              | [95% CI]    |
| <b>Age 20-39</b> |       |                 |             |                  |             |
| Localized        | 669   | 93.5            | [92.3;94.6] | 86.1             | [83.9;88.1] |
| Regional         | 646   | 83.4            | [81.6;85.0] | 65.1             | [62.1;67.9] |
| Distant          | 36    | 13.0            | [7.0;20.9]  | 5.0              | [1.4;12.2]  |
| Unknown          | 97    | 80.6            | [75.5;84.7] | 73.1             | [66.7;78.4] |
| <b>Age 40-49</b> |       |                 |             |                  |             |
| Localized        | 2,384 | 95.0            | [93.9;96.0] | 90.7             | [88.8;92.3] |
| Regional         | 1,932 | 87.3            | [85.5;88.8] | 72.7             | [69.8;75.4] |
| Distant          | 198   | 35.9            | [28.7;43.1] | 17.3             | [10.6;25.4] |
| Unknown          | 212   | 72.1            | [64.2;78.6] | 56.1             | [44.8;66.0] |

\* based on CRs providing TNM-information (9 out of 11 CRs)

The distribution of breast cancer cases by stage and time period showed no evidence of any trend. For all stages combined, RS in women aged 20-49 years was 87.7% (95% CI 86.8-88.5) after 5 years and 75.6% (95% CI 74.3-77.3) after ten years since diagnosis. Ten years after diagnosis, RS by stage was 89.8% (95% CI 87.9-91.4) for the localized stage, 70.6 (95% CI 67.8-72.2) for the regional stage and 19.6% (95% CI 12.7-27.5) for the distant stage. Cases with unknown stage had showed 10-year RS of 60.3 (95% CI 50.4-68.8).

Overall, 5- and 10-year RS was lower among women aged 20-39 years compared to women aged 40-49 years at time of diagnosis. Analyses by age-group and stage revealed lower survival for women aged 20-39 years than women aged 40-49 years for all stages. However, cases without stage information showed reversed results with RS of 73.1% in women aged 20-39 years versus 56.1% in women aged 40-49 years.

## CONCLUSIONS

Our study found a lower survival in women with BC aged 20-39 years at time of diagnosis compared to women aged 40-49 years. However, whether or not age is an independent risk factor remains unclear. Further investigations are needed to study the impact of risk and other prognostic factors on BC survival in younger women.

## SELECTED REFERENCES

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- 2 Rapiti E, Fioretta G, Verkooijen HM, et al. Survival of young and older breast cancer patients in Geneva from 1990 to 2001. *European journal of cancer*. Jul 2005;41(10):1446-1452.
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