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BACKGROUND & OBJECTIVES

Breast carcinoma is the most common cancer and the leading cause of cancer death in Swiss women. In Switzerland, each year almost 6,000 patients are newly diagnosed with breast cancer and more than 1,300 women die of the disease. The clinical stage at breast cancer diagnosis remains one of the major prognostic factors and women with early-stage breast carcinomas are expected to have excellent survival rates. Several studies outside of Switzerland have reported a negative association between socioeconomic position (SEP) and breast cancer stage at presentation [1-4]. However, to the best of the authors' knowledge, no investigation of this topic for Switzerland exists. Therefore, the present study aims to investigate the relationship between SEP and breast cancer stage at diagnosis in the female population of Switzerland using education level as indicator of SEP.

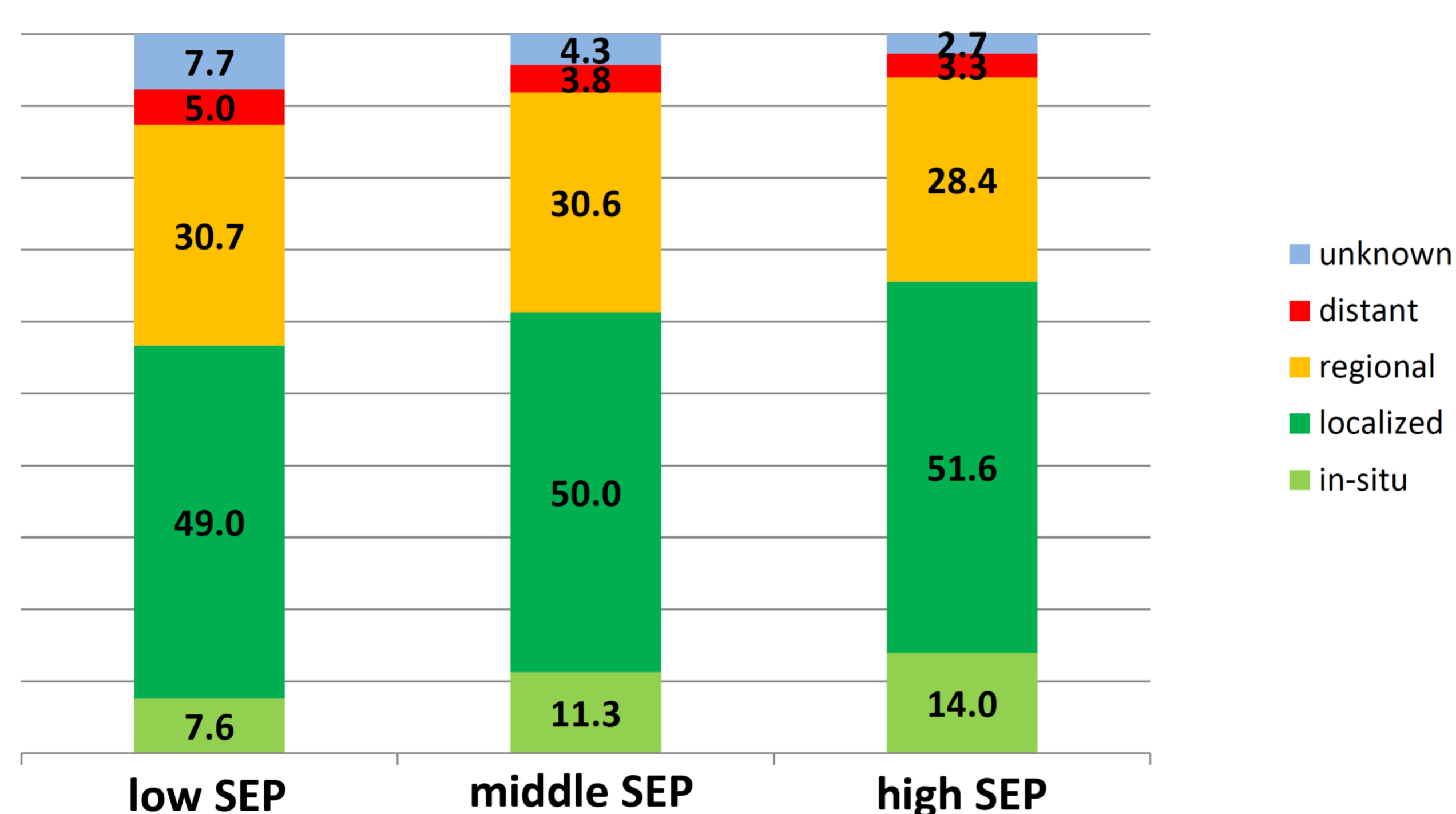
DATA & METHODS

The study used population-based breast cancer incidence data from the cantonal cancer registries of Geneva, Valais and Zurich 2001-2008 (N=10,905) linked to the Swiss National Cohort. Stage at diagnosis was classified by Surveillance, Epidemiology, and End Results (SEER) stage classification (in situ, localized, regional, distant). We used highest education level attained to estimate SEP (compulsory or less, upper-secondary, upper-tertiary education). Ordered logistic regression models examined the association between cancer stage at diagnosis and SEP. The adjusted model reports odds ratios (OR) with 95% confidence intervals (95%CI) and included age at presentation (<50, 50-70, >70 years), canton with organized screening program (yes/no), civil status (single, married, divorced and widowed), nationality (Swiss, non-Swiss), and an interaction term for age and screening program.

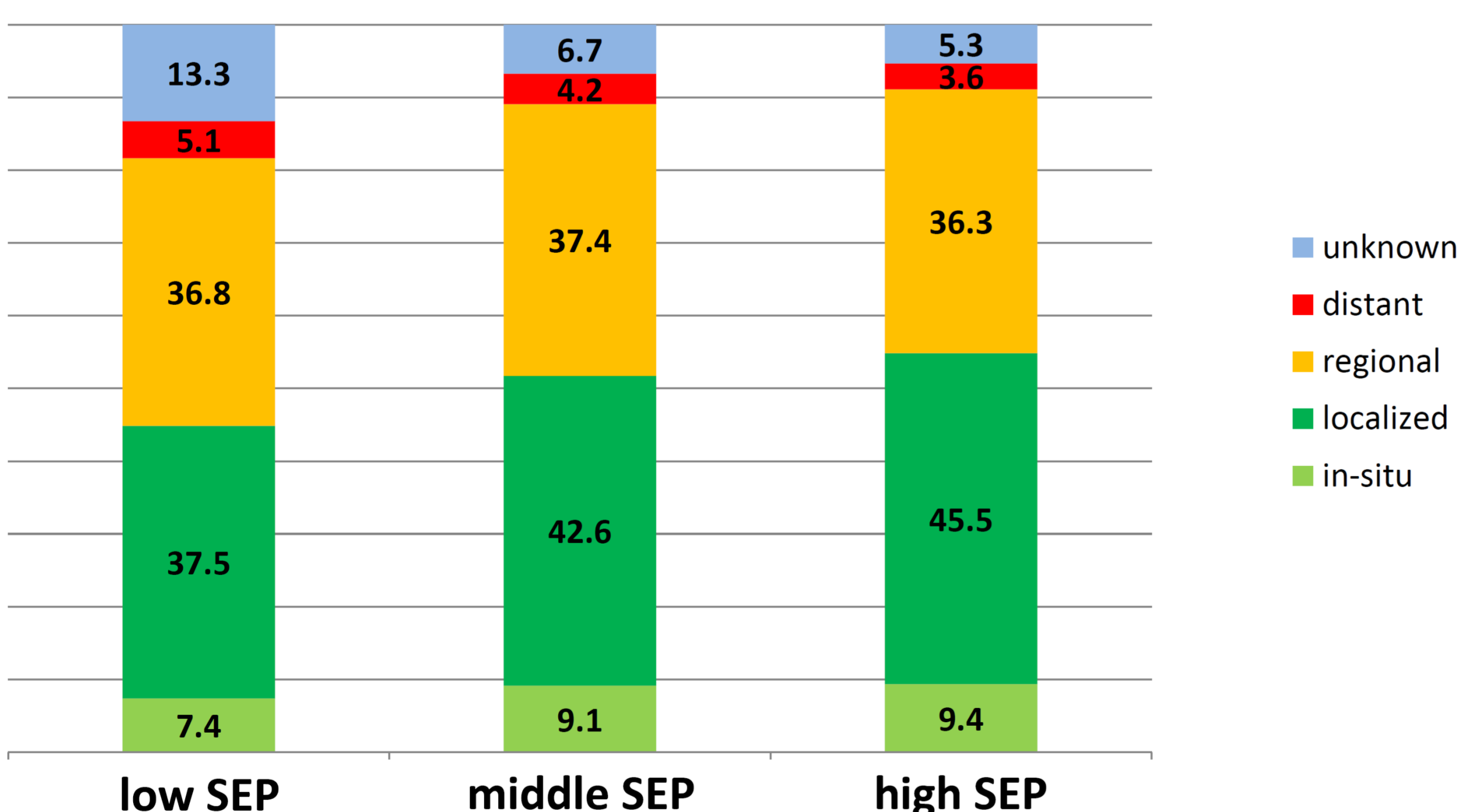
RESULTS

Stage at presentation by SEP and region of living

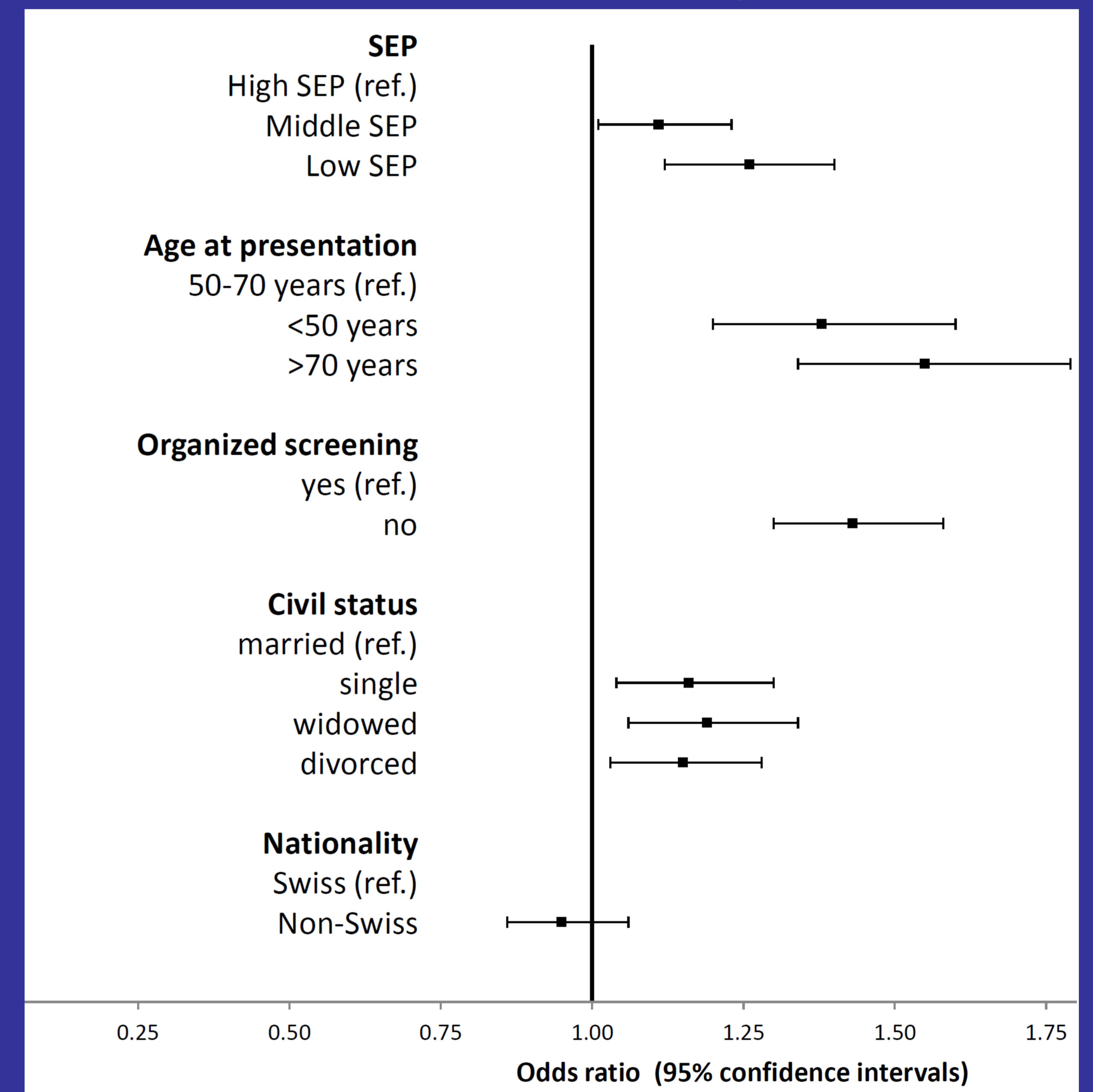
Women living in a region with organized breast cancer screening program



Women living in a region without organized breast cancer screening program



Factors associated with later stage breast cancer



Odds of later stage at breast cancer diagnosis were increased for women with upper-secondary (OR 1.12, 95%CI 1.01-1.23) and compulsory or less education (OR 1.27, 95%CI 1.14-1.43) compared to women with upper-tertiary education. Women living in a canton without an organized screening program were also more likely to be diagnosed at later stages (OR 1.45, 95%CI 1.31-1.60). Further, women outside the targeted screening age (<50 years: OR 1.39, 95%CI 1.20-1.60; >70 years OR: 1.56, 95%CI 1.35-1.81) and single/widowed/divorced women showed elevated risks for later stages (OR 1.16 (95%CI 1.04-1.30) - 1.19 (95%CI 1.05-1.33)).

CONCLUSIONS

Women with low SEP had more often an unknown tumor stage indicating a social gradient concerning diagnostics and/or cancer registration. Characteristics associated with later stage breast cancer diagnosis in Switzerland were lower SEP, being unmarried, being below 50 or above 70 years of age and living in a canton without an organized breast cancer screening program. Appropriate intervention strategies are needed in order to reduce sociodemographic inequalities and improve early detection of breast cancer.

SELECTED REFERENCES

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