

Additional file 4 All-cause mortality according to smoking exposure at time of diagnosis among 5,892 women with invasive breast cancer (1987-2008) - Analysis with indicator variables for missing data on confounders

Smoking status	All-cause mortality				
	Number of		Crude HR	Age ^a -adjusted HR	Adjusted ^b HR
	Women	Deaths	(95% CI)	(95% CI)	(95% CI)
Never ^c	3,510	859	1.00	1.00	1.00
Former	1,303	267	0.93 (0.81-1.06)	1.10 (0.95-1.26)	1.18 (1.02-1.36)
Current ^d	1,079	282	1.00 (0.87-1.14)	1.21 (1.05-1.39)	1.39 (1.20-1.60)
≤15 pack years	232	52	0.67 (0.51-0.89)	0.77 (0.58-1.02)	0.90 (0.68-1.21)
>15 to ≤30 pack years	278	88	1.13 (0.91-1.41)	1.37 (1.09-1.71)	1.63 (1.30-2.04)
>30 pack years	273	93	1.30 (1.05-1.61)	1.62 (1.30-2.01)	1.84 (1.48-2.30)
P-value, test for trend ^e			0.0003	< 0.0001	< 0.0001
≤10 cigarettes/day	287	64	0.89 (0.69-1.15)	1.01 (0.79-1.31)	1.26 (0.97-1.63)
>10 to ≤20 cigarettes/day	395	114	1.04 (0.86-1.27)	1.24 (1.02-1.51)	1.37 (1.12-1.68)
>20 cigarettes/day	337	97	1.08 (0.87-1.33)	1.41 (1.14-1.75)	1.54 (1.24-1.92)
P-value, test for trend ^e			0.30	0.001	0.0003
≤20 years	191	54	0.80 (0.61-1.06)	0.88 (0.66-1.17)	1.00 (0.75-1.34)
21 to 30 years	258	66	0.81 (0.63-1.04)	1.06 (0.82-1.38)	1.27 (0.98-1.65)
>30 years	340	115	1.45 (1.20-1.77)	1.65 (1.36-2.01)	1.96 (1.60-2.39)
P-value, test for trend ^e			0.002	< 0.0001	<0.0001

Abbreviations: HR, hazard ratio; CI, confidence interval.

a HRs adjusted for age at diagnosis (≤39, 40-49, 50-59, 60-69, ≥70 years).

b HRs adjusted for age at diagnosis (≤39, 40-49, 50-59, 60-69, ≥70 years), year of diagnosis (≤1994, 1995-1999, 2000-2004, ≥2005), ≥30.0), age at menarche (≤11, 12, 13, ≥14 years), parity (0, 1, 2, ≥3), menopausal status (premenopausal, postmenopausal), current hormone replacement therapy use (yes, no), first degree family history of breast cancer (yes, no), estrogen and progesterone receptors positivity (positive, negative, not investigated), histological grade (well, moderately, poorly differentiated), size of the tumor (≤10, 11-20, 21-30, 31-40, >40 mm, no pathological investigation), regional or distant involvement (node-negative, 1-3 positive nodes, ≥4 positive nodes, unknown nodal involvement, distant metastases), locoregional treatment (mastectomy, breast-conserving surgery, no surgery), neoadjuvant therapy (yes, no), adjuvant endocrine therapy (yes, no), adjuvant chemotherapy (yes, no).

c Reference category.

d Among the 1,079 current smokers, number of pack years of smoking, number of cigarettes smoked and duration of smoking were unknown for 296, 60 and 290 women, respectively.

e P for trend in hazard ratios comparing current smokers further categorized based on number of pack years of smoking, number of cigarettes smoked daily or duration of smoking, to never smokers.