

*Supplementary data for the manuscript entitled:*

## **Reproductive factors, use of exogenous hormones and the rate of pancreatic cancer incidence: the Norwegian Women and Cancer Study**

Antoine Alvarez<sup>1</sup>, Kristin Benjaminsen Borch<sup>2</sup>, Charlotta Rylander<sup>2</sup>

<sup>1</sup>Faculty of Medicine, Paris-Sud University, Paris, France

<sup>2</sup>Department of Community Medicine, Faculty of Health Sciences, UiT The Arctic University of Norway, Tromsø, Norway

**Supplementary table 1:** Hazard ratios (HR) and 95% confidence intervals (CI) for the association between cumulative breastfeeding duration (months) and the rate of pancreatic cancer incidence stratified by smoking status. The Norwegian Women and Cancer study.

		Age-adjusted models				Multivariable adjusted models			
		n cases=	Person years	HR (95% CI)	P trend	n cases=	Person years	HR (95% CI)	P trend
Never smokers									
<b>Cumulative breastfeeding duration<sup>a</sup></b>									
(months)	0	28	143,935	Ref.		22	143,934	Ref.	
	1-6	21	147,536	0.70 (0.38; 1.27)		18	147,536	0.55 (0.25; 1.22)	
	7-12	18	156,500	0.56 (0.30; 1.05)		17	156,500	0.51 (0.23; 1.15)	
	13-18	19	126,075	0.79 (0.43; 1.45)		17	126,076	0.70 (0.31; 1.61)	
	19-24	17	90,406	1.05 (0.56; 1.99)		14	90,406	0.90 (0.38; 2.14)	
	≥25	11	133,966	0.45 (0.22; 0.92)	0.22	9	133,966	0.41 (0.15; 1.11)	0.60
	Per month:	114	829,579	0.99 (0.97; 1.01)		97	713,304	0.99 (0.97; 1.01)	
Ever smokers									
<b>Cumulative breastfeeding duration<sup>a</sup></b>									
(months)	0	58	249,662	Ref.		51	249,662	Ref.	
	1-6	101	380,148	1.26 (0.87; 1.82)		87	380,148	0.98 (0.61; 1.60)	
	7-12	73	325,748	1.06 (0.72; 1.55)		63	325,748	0.80 (0.48; 1.33)	
	13-18	38	201,286	0.91 (0.58; 1.41)		35	201,286	0.73 (0.42; 1.27)	
	19-24	30	121,609	1.22 (0.76; 1.96)		26	121,609	0.90 (0.49; 1.63)	
	≥25	17	128,977	0.62 (0.35; 1.96)	0.046	15	128,977	0.40 (0.20; 0.80)	0.006
	Per month:	317	1,435,907	0.98 (0.97; 1.00)		277	1,245,748	0.97 (0.96; 0.99)	

**Notes: Abbreviations:** HR, Hazard Ratio; CI, Confidence Interval; OC, Oral Contraceptive

**Age adjusted (crude) model:** adjusted for age and sub-cohort (enrolled 1991-1992, born 1943-65 / enrolled 1996-1997, born 1927-1942 / enrolled 1996-1997, born 1943-65 / enrolled 2003-2008, born 1943-1965).

**Adjusted models:**

a: adjusted for education, number of children and oral contraceptive use

**Supplementary table 2:** Hazard ratios (HR) and 95% confidence intervals (CI) for the association between age at first birth and the rate of pancreatic cancer incidence stratified by smoking status. The Norwegian women and cancer study.

		Age-adjusted models				Multivariable adjusted models			
Never smokers		n cases=	Person years	HR (95% CI)	P trend	n cases=	Person years	HR (95% CI)	P trend
<b>Age at first birth<sup>a</sup></b>									
(years)	≤19	7	79,246	0.59 (0.27, 1.30)		7	79,245	0.65 (0.29, 1.42)	
	20-24	67	435,146	Ref.		61	435,146	Ref.	
	25-29	43	320,370	0.94 (0.64; 1.38)		37	320,370	0.90 (0.59; 1.37)	
	≥30	13	121,963	0.81 (0.45; 1.47)	0.93	11	121,963	0.76 (0.39; 1.46)	0.68
	Per year:	130	988,562	1.00 (0.96; 1.04)		116	858,408	0.99 (0.94; 1.03)	
Ever smokers									
<b>Age at first birth<sup>a</sup></b>									
(years)	≤19	73	290,802	1.19 (0.91, 1.55)		63	290,802	1.17 (0.88, 1.57)	
	20-24	203	136,434	Ref.		176	861,984	Ref.	
	25-29	86	69,496	0.86 (0.67; 1.11)		78	434,546	0.92 (0.70; 1.21)	
	≥30	28	29,031	0.75 (0.51; 1.12)	0.019	27	176,235	0.86 (0.57; 1.30)	0.161
	Per year:	390	1,790,891	0.96 (0.94; 0.98)		344	1,567,379	0.97 (0.94; 1.00)	

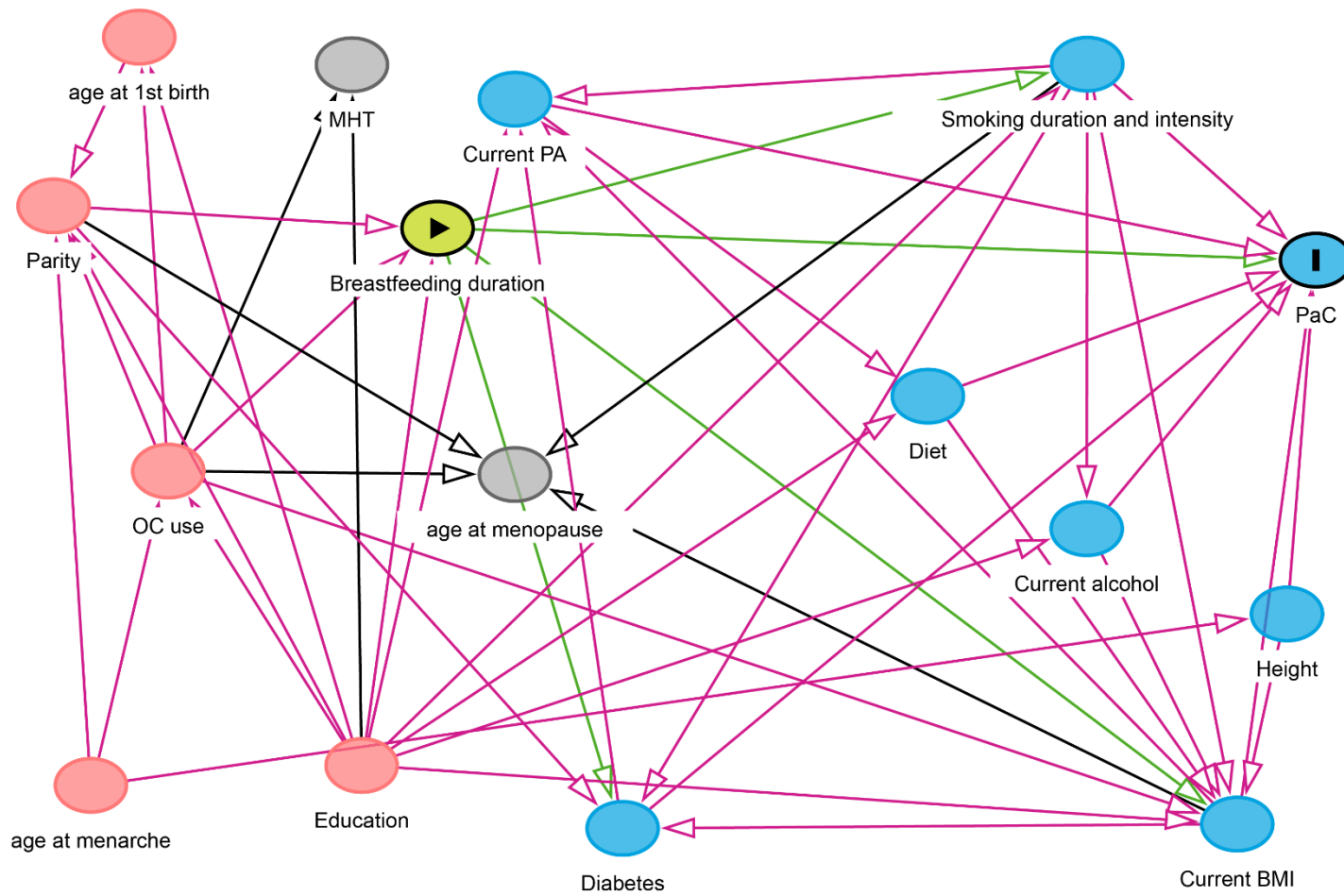
**Notes:**

**Age adjusted (crude) model:** adjusted for age and sub-cohort (enrolled 1991-1992, born 1943-65 / enrolled 1996-1997, born 1927-1942 / enrolled 1996-1997, born 1943-65 / enrolled 2003-2008, born 1943-1965)

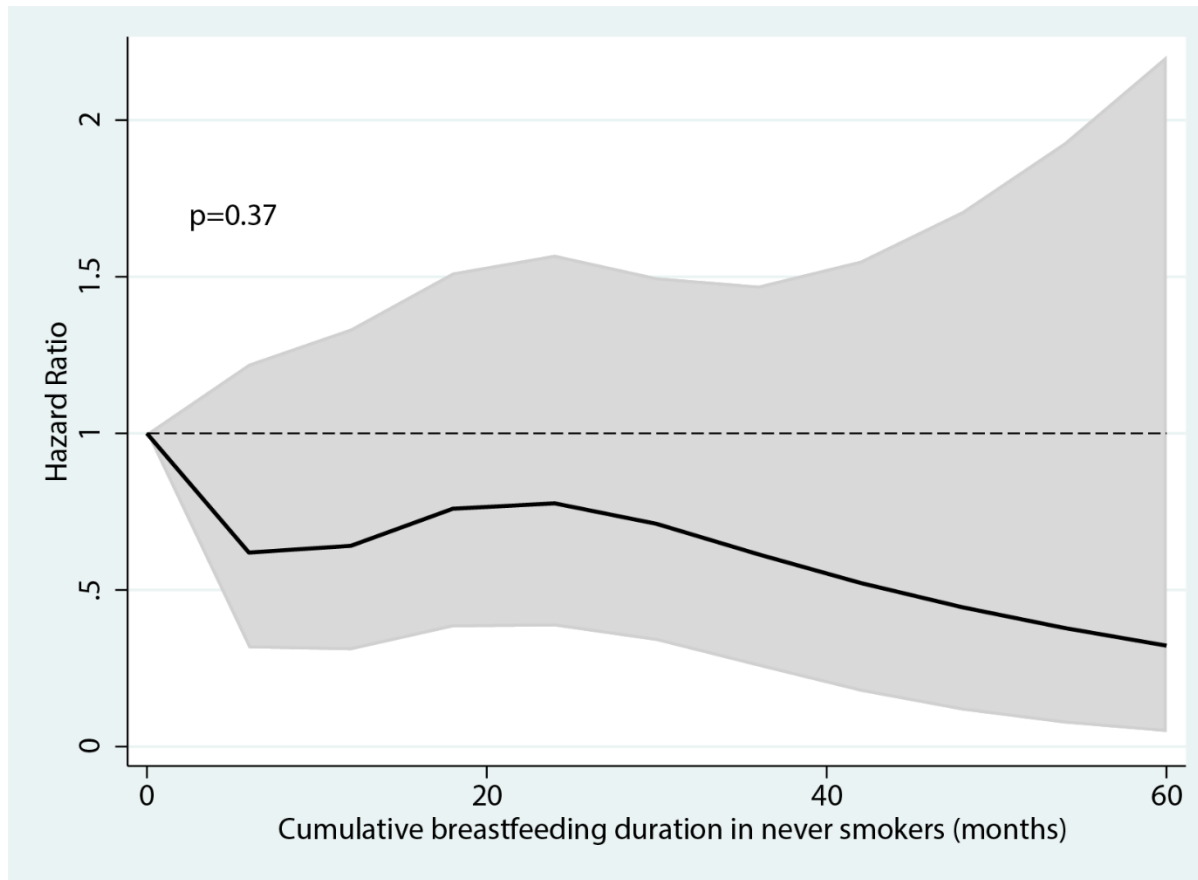
**Adjusted models:**

a: Adjusted for age, education and OC use

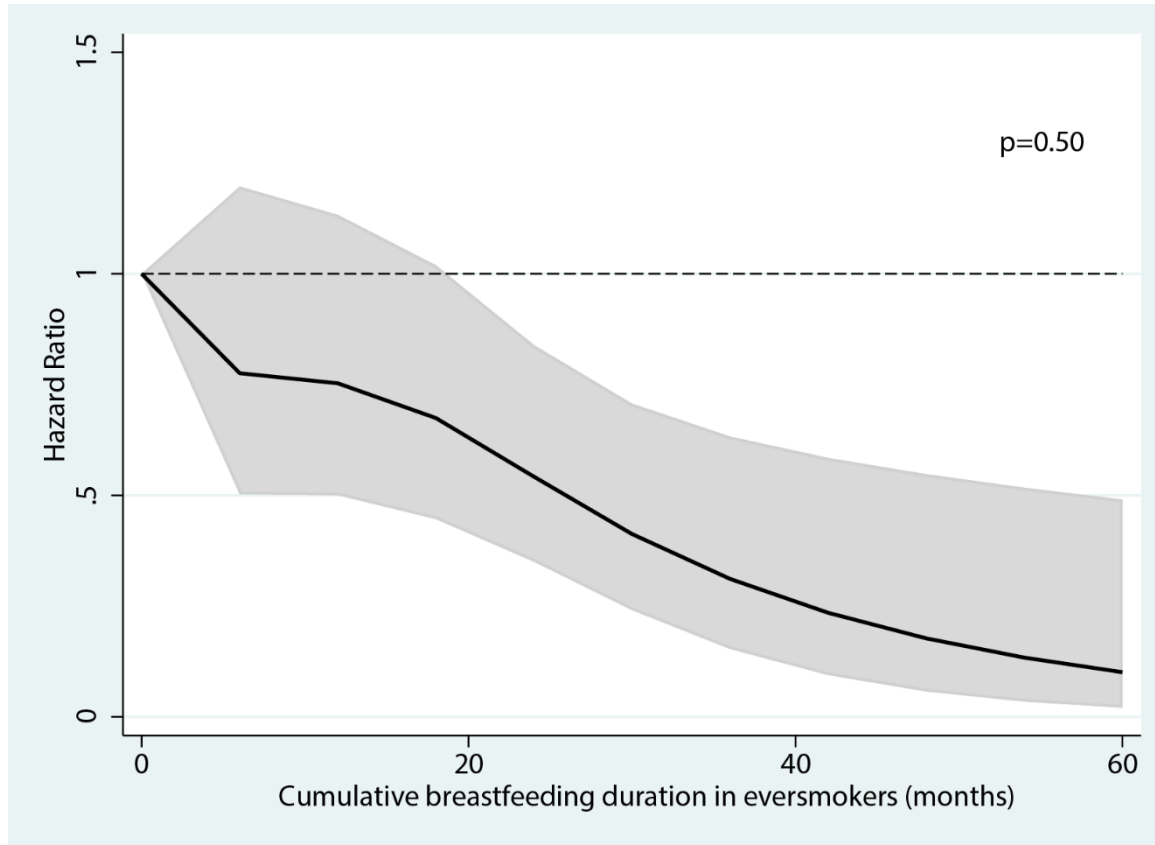
**Abbreviations:** HR, Hazard Ratio; CI, Confidence Interval; OC, Oral Contraceptive



**Supplementary figure1:** Directed acyclic graph depicting the assumed relations between cumulative breastfeeding duration, pancreatic cancer incidence and covariates. The figure is created from <https://dagitty.net>



**Supplementary figure 2:** The association between cumulative breastfeeding duration and rate of pancreatic cancer incidence in never smokers. Cumulative breastfeeding duration is modelled in continuous scale using restricted cubic splines with 4 knots. The p-value corresponds to the null hypothesis that the regression coefficients for the second and third spline coefficient equaled zero, i.e. a test of non-linearity.



**Supplementary figure 3:** The association between cumulative breastfeeding duration and rate of pancreatic cancer incidence in ever smokers. Cumulative breastfeeding duration is modelled in continuous scale using restricted cubic splines with 4 knots. The p-value corresponds to the null hypothesis that the regression coefficients for the second and third spline coefficient equaled zero, i.e. a test of non-linearity.