

Supplementary Table 1. Study characteristics and association between OC use and breast cancer incidence

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Case-control							
Shapiro, 2000 (1)	Black or Colored women aged 20–54 yr in Cape Town <u>Cases:</u> 484 invasive breast cancer, hospital <u>Controls:</u> 1625, hospital	1.2	1.0 to 1.5	Age, sex, injectable progesterone use, ethnicity	South Africa	Fair	1
Van Hoften, 2000 (2)	Recruitment period: 1994–1997 Women aged 41–52 yr in Doorlopend Onderzoek Morbiditeit/Mortaliteit Cohort Study <u>Cases:</u> 309 incident breast cancer, breast cancer screening program <u>Controls:</u> 610 cohort members	1.24	0.96 to 1.78	Age, parity, menopausal status, age at menarche, smoking, marital status, education, age at first delivery, maternal history of breast cancer	Netherlands	Good	1
Gomes, 2001 (3)	Recruitment period: 1982–1984 Hospital patients in Belo Horizonte (age NR) <u>Cases:</u> 280 breast cancer, hospital <u>Controls:</u> 569 outpatients or gynecology inpatients Recruitment period: 1978–1987	1.93	1.19 to 3.11	Parity, menopausal status, family history, occupation (housewife, housekeeper, other) irregular menstrual cycles, and possibly other (hard to tell)	Brazil	Poor	1

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Narod, 2002 (7)	Known carriers of BRCA1 or BRCA2 mutations <i>BRCA1 carriers</i> <u>Cases:</u> 981 breast cancer, research studies <u>Controls:</u> 981, research studies <i>BRCA2 carriers</i> <u>Cases:</u> 330 breast cancer, research studies <u>Controls:</u> 330, research studies Mean age of cases at diagnosis: 39.1 yr (SD 8.1) Recruitment period: 1977–2001	1.20	1.02 to 1.40	Race, parity	52 centers in 11 countries	Fair	3
Tryggvadottir, 2002 (8)	All Icelandic women diagnosed with first invasive breast cancer from 1979–1995 <u>Cases:</u> 1120, registry <u>Controls:</u> 10,537, registry	NR	NR	NA	Iceland	Good	5
Althuis, 2003 (9)	Recruitment period: 1979–1995 Premenopausal women aged 20–54 yr <u>Cases:</u> 265 breast cancer, <35 yr <u>Controls:</u> 280 community controls, <35 yr <u>Cases:</u> 1214 breast cancer, 35–44 yr <u>Controls:</u> 1033 community controls, 35–44 yr <u>Cases:</u> 271 breast cancer, 45–54 yr <u>Controls:</u> 244 community controls, 45–54 yr Recruitment period: 1990–1992	0.73	0.5 to 1.1	Age, race, BMI, age at menarche, study site, number of mammograms within 5 yr prior to diagnosis, recent oral contraceptive use, a combination variable for age at birth and number of full-term births, family history of breast cancer, alcohol consumption	U.S.	Good	1

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Althuis, 2003 (10)	Women aged 20–54 yr in 5 metropolitan areas <u>Cases</u> : 1640 invasive or <i>in situ</i> breast cancer, registries <u>Controls</u> : 1492 no breast cancer, community	NR	NR	NA	U.S.	Fair	4
Newcomer, 2003 (11)	Recruitment period: 1990–1992 Women <75 yr in Collaborative Breast Cancer Study <u>Cases</u> : 5510 breast cancer, registries <u>Controls</u> : 9311, community Note: ductal cancer only (lobular cancer cases excluded)	1.00	0.90 to 1.11	Age, race, BMI, family history, type of and age at menopause, state, education, alcohol	U.S.	Fair	10
Norman, 2003 (12)	Recruitment period: NR Women aged 35–64 yr in Women’s Contraceptive and Reproductive Experiences (CARE) Study <u>Cases</u> : 1847 breast cancer, SEER registries <u>Controls</u> : 1932, community	NR	NR	NA	U.S.	Fair	5
Suter, 2003 (13)	Recruitment period: 1994–1998 Women <45 yr in Western Washington <u>Cases</u> : 524 breast cancer, SEER registry <u>Controls</u> : 461, community Recruitment period: 1990–1992	1.3	0.9 to 1.8	Age	U.S.	Fair	1

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Wrensch, 2003 (14)	Residents of Marin County, California <i>All subjects</i> <u>Cases</u> : 285, registry <u>Controls</u> : 286, community	0.43	0.26 to 0.72	Age, residence at birth	U.S.	Good	1
	<i>Age <50</i> <u>Cases</u> : 201, registry <u>Controls</u> : 201, community	0.41	0.22 to 0.75				
	<i>Age >50</i> <u>Cases</u> : 84, registry <u>Controls</u> : 85, community	0.15	0.03 to 0.65				
Fowke, 2004 (15)	Recruitment period: 1997–1999 Women aged 25–70 yr in Shanghai Breast Cancer Study <i>Premenopausal</i> <u>Cases</u> : 103 breast cancer, hospitals and registry <u>Controls</u> : 103, resident registry	0.92	0.67 to 1.26	Age, parity, BMI, age at menarche, education, fibroadenoma history, leisure time activity, age at first live birth	China	Fair	9
	<i>Postmenopausal</i> <u>Cases</u> : 110 breast cancer, hospitals and registry <u>Controls</u> : 127, resident registry	0.96	0.70 to 1.32				
Jernstrom, 2005 (16)	Recruitment period: 1996–1998 Women <40 yr in South Swedish Health Care Region <u>Cases</u> : 245 breast cancer, registry <u>Controls</u> : 735, community	1.65	0.95 to 2.87	Parity, family history, age at menarche, smoking	Sweden	Fair	4
	Recruitment period: 1990–1995						

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Milne, 2005 (17)	Women <40 yr in San Francisco, Ontario, Melbourne, and Sydney <i>Cases with BRCA1 mutation</i> <u>Cases</u> : 47 breast cancer, registries <u>Controls</u> : 815, community	0.22	0.10 to 0.49	Age, parity, family history, age at menarche, study location/period, education, marital status, country of birth	U.S., Canada, Australia	Good	4
	<i>Cases with BRCA2 mutation</i> <u>Cases</u> : 36 breast cancer, regional registries <u>Controls</u> : 815, community	1.02	0.34 to 3.09				
	<i>Cases with neither BRCA1 or 2 mutations</i> <u>Cases</u> : 1073 breast cancer, registries <u>Controls</u> : 815, community	0.93	0.69 to 1.24				
	Recruitment period: 1995–1998 BRCA1 carriers, Hereditary Cancer Center (age NR) <u>Cases</u> : 348 breast cancer, cancer center <u>Controls</u> : 348, cancer center	0.80	0.50 to 1.20				
Gronwald, 2006 (18)	Recruitment period: NR White women <40 yr BRCA1 or BRCA2 carriers <i>BRCA1 carriers (cases and controls)</i> <u>Cases</u> : 111 breast cancer, registries <u>Controls</u> : 185, registries	0.64	0.35 to 1.16	Age, parity, family history, study site	Poland	Fair	3
	<i>BRCA2 carriers (cases and controls)</i> <u>Cases</u> : 71 breast cancer, registries <u>Controls</u> : 94, registries	1.29	0.61 to 2.76				
	Recruitment period: NR						
Haile, 2006 (19)							

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Ma, 2006 (20)	Women aged 35–64 yr in Women’s Contraceptive and Reproductive Experiences (CARE) Study <u>Cases:</u> 1725 breast cancer, SEER registries <u>Controls:</u> 440, community	NR	NR	NA	U.S.	Good	5
Rosenberg, 2006 (21)	Recruitment period: 1994–1998 Extension of a case-control study among Swedish residents aged 50–74 yr <u>Cases:</u> 2289 ductal, lobular, or tubular cancer, registries <u>Controls:</u> 3065, population registry	NR	NR	NA	Sweden	Fair	5
Faheem, 2007 (22)	Recruitment period: 1993–1995 Hospital patients in Islamabad <u>Cases:</u> 150, breast cancer, hospital <u>Controls:</u> 159, community	NR	NR	NA	Pakistan	Poor	5
Folger, 2007 (23)	Mean age of cases: 42 yr (SD 12) Recruitment period: 2005 Women aged 35–64 yr with history of short-term OC use, Women’s CARE study <i>Premenopausal</i> <u>Cases:</u> 497 breast cancer, SEER registries <u>Controls:</u> 456, community <i>Postmenopausal</i> <u>Cases:</u> 729 breast cancer, SEER registries <u>Controls:</u> 707, community Recruitment period: 1994–1998	NR	NR	NR	U.S.	Fair	5

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Nichols, 2007 (24)	Women aged 20–74 yr in Collaborative Breast Cancer Study <u>Cases:</u> 1878 breast cancer <i>in situ</i> , registry <u>Controls:</u> 8041, community Recruitment period: 1997–2001	1.10	0.99 to 1.25	Age, parity, menopausal status, family history, age at menarche, smoking, state, age at first birth, age at menopause, HRT, weight at age 18, height, weight gain since age 18, education, mammography screening, history of benign breast disease	U.S.	Good	6
Shantakumar, 2007 (25)	Long Island Breast Cancer Study Project (age NR) <i>Premenopausal women</i> <u>Cases:</u> 468 <i>in situ</i> or invasive breast cancer, rapid case ascertainment <u>Controls:</u> 500, community <i>Postmenopausal <65 years old</i> <u>Cases:</u> 491 <i>in situ</i> or invasive breast cancer, registry, rapid case ascertainment <u>Controls:</u> 554, community <i>Postmenopausal >65 years old</i> <u>Cases:</u> 519 <i>in situ</i> or invasive breast cancer, registry <u>Controls:</u> 439, community Recruitment period: 1996–1997	0.82	0.57 to 1.19	Age	U.S.	Good	1
		0.95	0.74 to 1.22				
		1.37	1.04 to 1.81				

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Sweeney, 2007 (26)	<p>Hispanic and non-Hispanic white women ≤64 yr <i>All subjects</i> <u>Cases:</u> 2303 breast cancer, registries <u>Controls:</u> 2513, community</p> <p><i>Hispanics only</i> <u>Cases:</u> 796 breast cancer, registries <u>Controls:</u> 919, community</p> <p><i>Non-Hispanic Whites</i> <u>Cases:</u> 1522 breast cancer, registries <u>Controls:</u> 1586, community</p>	1.08	0.94 to 1.24	Age, parity, menopausal status, family history, study center, education, alcohol, language acculturation, years since last birth, use of contraception injections and HRT	U.S.	Good	1
Figueiredo, 2008 (27)	<p>Recruitment period: 1999–2004 Women <55 yr in Women’s Environment, and Radiation Epidemiology Study <i>Women with history of unilateral breast cancer</i> <u>Cases:</u> 708 asynchronous bilateral breast cancer, registry <u>Controls:</u> 1399 unilateral breast cancer only, registry</p> <p>Recruitment period: 1985–2000</p>	0.88	0.67 to 1.16	Parity, menopausal status, family history, age at menarche, counter-matching sampling, age at diagnosis of first breast cancer, family history of breast cancer in a first degree relative, histology, stage, chemotherapy, hormonal therapy, radiation therapy	U.S.	Fair	7

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Lee, 2008 (28)	Women aged 20–49 yr in Women’s Learning the Influence of Family and Environment Study			Age, race, parity, family history, education, Ashkenazi Jewish	U.S.	Good	
	<u>Cases:</u> 94, breast cancer and BRCA1/2 carrier, registry <u>Controls:</u> 444 BRCA1/2 unknown, community	0.68	0.33 to 1.38				3
	<u>Cases:</u> 1375 breast cancer, not BRCA1/2 carrier, registry <u>Controls:</u> 444 BRCA1/2 unknown, community	0.81	0.57 to 1.14				1
Nyante, 2008 (29)	Recruitment period: 1998–2003 Women aged 20–44 yr in Women’s Interview Study of Health			Age, site, frequency of pap smears	U.S.	Fair	4
	<i>Ductal cancer</i> <u>Cases:</u> 1164 invasive or <i>in situ</i> cancer, rapid reporting system <u>Controls:</u> 1501, community	1.21	1.01 to 1.45				
	<i>Lobular cancer</i> <u>Cases:</u> 100, invasive or <i>in situ</i> cancer, rapid reporting system <u>Controls:</u> 1501, community	1.10	0.68 to 1.78				
Phillips, 2009 (30)	Recruitment period: 1990–1992 Women aged 20–74 yr in Carolina Breast Cancer Study			Age, race	U.S.	Fair	1
	<u>Cases:</u> 1808 invasive breast cancer, registry <u>Controls:</u> 1564, community	1.11	0.94 to 1.32				
	<u>Cases:</u> 446 <i>in situ</i> cancer, registry <u>Controls:</u> 458, community	1.11	0.80 to 1.53				
	Recruitment period: 1993–2001						

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Rosenberg, 2009 (31)	<p>Women aged 25–69 yr in Case-Control Surveillance Study</p> <p><u>Cases:</u> <i>all invasive cancers</i></p> <p><u>Cases:</u> 907 breast cancer, hospital</p> <p><u>Controls:</u> 1711, hospital</p> <p><i>Age <50</i></p> <p><u>Cases:</u> 431 breast cancer, hospital</p> <p><u>Controls:</u> 939, hospital</p> <p><i>Age ≥50</i></p> <p><u>Cases:</u> 476 breast cancer, hospital</p> <p><u>Controls:</u> 772, no breast cancer, hospital</p> <p><i>Black women</i></p> <p><u>Cases:</u> 176 breast cancer, hospital</p> <p><u>Controls:</u> 559, hospital</p> <p><i>White women</i></p> <p><u>Cases:</u> 731 breast cancer, hospital</p> <p><u>Controls:</u> 1152, hospital</p>	NR	NR	NA	U.S.	Fair	5
Figueiredo, 2010 (32)	<p>Recruitment period: 1976–1996</p> <p>Women <55 yr in Women's Environment, and Radiation Epidemiology Study</p> <p><i>BRCA1 carriers (cases and controls)</i></p> <p><u>Cases:</u> 67 contralateral breast cancer, registry</p> <p><u>Controls:</u> 42 unilateral breast cancer, registry</p> <p><i>BRCA2 carriers (cases and controls)</i></p> <p><u>Cases:</u> 41 contralateral breast cancer, registry</p> <p><u>Controls:</u> 31 contralateral breast cancer, registry</p> <p>Recruitment period: 1985–2000</p>	0.82	0.21 to 3.13	Age	U.S.	Fair	7
		2.38	0.72 to 7.83				

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Lumachi, 2010 (33)	Women who underwent curative surgery for breast cancer <i>Postmenopausal women</i> <u>Cases:</u> 238 breast cancer, surgically treated <u>Controls:</u> 255, mammography screening	2.06	1.14 to 3.70	Unadjusted	Italy	Fair	1
Ma, 2010 (34)	Mean age of cases at diagnosis: 62 yr (SD 10) Recruitment period: NR White or African-American women aged 35–64 yr <u>Cases:</u> 335 triple-negative breast cancer, registries <u>Controls:</u> 2015, community	0.93	0.74 to 1.17	Age, race, parity, menopausal status, BMI, family history, age at menarche, study site, education	U.S.	Good	8
	<u>Cases:</u> 97 ER-/PR/HER2+ breast cancer, registries <u>Controls:</u> 2015, community	1.00	0.72 to 1.39				
	<u>Cases:</u> 645 luminal A breast cancer, registries <u>Controls:</u> 2015, community	1.21	0.69 to 2.11				
	<u>Cases:</u> 120 luminal B breast cancer, registries <u>Controls:</u> 2015, community	1.23	0.73 to 2.10				
Xu, 2011 (35)	Recruitment period: 2000–2003 Women aged 25–65 yr in Shanghai Breast Cancer Study <u>Cases:</u> 2073 breast cancer, hospitals and registry <u>Controls:</u> 2084, resident registry Recruitment periods: 1996–1998; 2002–2005	0.98	0.83 to 1.15	Age, parity, menopausal status, BMI, family history, age at menarche, education	China	Good	1

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Marchbanks, 2012 (36)	White or black women aged 35–64 yr <u>Cases</u> : 2282, registries <u>Controls</u> : 2424, community	NR	NR	NA	U.S.	Good	5
Urban, 2012 (37)	Recruitment period: 1994–1998 Black South African women aged 18–79 yr <u>Cases</u> : 256, hospital <u>Controls</u> : 156, hospital Recruitment period: 1995–2006	1.28	1.0 to 1.64	Age, parity, smoking, year of diagnosis, education, alcohol consumption, sexual partners, urban/rural residence, province of birth	South Africa	Good	1
Cohort							
Grabrick, 2000 (38)	Family members of women aged 21–88 yr diagnosed with breast cancer between 1944 and 1952 <u>Exposed</u> : 3156 <u>Unexposed</u> : 2994	1.4	1.0 to 2.0	Age, birth cohort, class effect of family	U.S.	Good	2
Kumle, 2002 (39)	Recruitment period: 1991–1996 Women aged 30–49 yr in prospective cohort study <u>Exposed</u> : 74,856 <u>Unexposed</u> : 28,171 Recruitment period: 1991–1992	1.3	1.1 to 1.5	Age, parity, menopausal status, BMI, family history, age at menarche, breastfeeding, age at first birth, HRT use, region, BMI times menopausal status	Norway, Sweden	Good	1
Dumeaux, 2003 (40)	Women aged 30–70 yr in Norwegian Women and Cancer Study <u>Exposed</u> : 49,322 <u>Unexposed</u> : 37,690 Recruitment period: 1991–1997	1.25	1.07 to 1.46	Age, parity, menopausal status, BMI, family history, age at menarche, geographic area, invitation of breast cancer screening, age at first birth, HRT use, alcohol consumption	Norway	Fair	1

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Dumeaux, 2005 (41)	E3N-EPIC Cohort women aged 40–60 yr <u>Exposed</u> : 28,251 <u>Unexposed</u> : 40,419 Recruitment period: 1990	0.91	0.81 to 1.03	Parity, BMI, family history, age at menarche, frequency of pap smears, history of benign breast disease, alcohol consumption, time since menopause	France	Fair	1
Silvera, 2005 (42)	Women aged 40–59 yr in Canadian National Breast Screening Study <i>Women with first- or second-degree relatives with breast cancer</i> <u>Exposed</u> : 962 <u>Unexposed</u> : 745 <i>Women with first-degree relatives with breast cancer</i> <u>Exposed</u> : 433 <u>Unexposed</u> : 362 <i>Women with second-degree relatives with breast cancer</i> <u>Exposed</u> : 414 <u>Unexposed</u> : 284	0.88 1.03 0.74	0.73 to 1.07 0.78 to 1.38 0.54 to 1.00	Age, parity, menopausal status, BMI, age at menarche, alcohol, history of breast disease, age at first birth, HRT use, study center, randomization group	Canada	Good	2
Vessey, 2006 (43)	Recruitment period: 1980–1985 Women aged 25–39 yr at study entry in Oxford Family Planning Association Contraceptive Study <u>Exposed</u> : 301,000 person-years <u>Unexposed</u> : 187,000 person-years	1.0	0.8 to 1.1	Age, parity, BMI, breastfeeding, social class, height, age at first term pregnancy, age at first marriage	UK	Good	1
Brohet, 2007 (44)	Recruitment period: 1968–1974 Women aged 19–74 yr in International BRCA1/2 Carrier Cohort Study <u>Exposed</u> : 21,569 person-years <u>Unexposed</u> : 43,611 person-years Recruitment period: NR	1.47	1.16 to 1.87	Age, parity, family clustering, history of oophorectomy before right censoring	UK, France, Netherlands	Fair	3

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Hannafor, 2007 (45)	Royal College of General Practitioner's Oral Contraception Study <u>Exposed</u> : 744,000 person-years <u>Unexposed</u> : 339,000 person-years	0.98	0.87 to 1.10	Age, parity, smoking, social status; ever use HRT	UK	Fair	1
Lund, 2007 (46)	Mean age at entry: 29 yr (SD 6.6) Recruitment period: 1968–NR Women aged 34–70 yr in Norwegian Women and Cancer Study <u>Exposed</u> : 11,371 <u>Unexposed</u> : 18,747	1.33	1.11 to 1.59	Parity, BMI, family history, age at menarche, mammography, age at first delivery	Norway	Good	1
Dorjgochoo, 2009 (47)	Recruitment period: 1991–1997 Women aged 40–70 yr in Shanghai Women's Health Study <u>Exposed</u> : 12,957 <u>Unexposed</u> : 15,557 Recruitment period: 1997–2000	1.05	0.84 to 1.31	Age, parity, menopausal status, BMI, family history, age at menarche, smoking, breastfeeding, education, physical activity, other contraceptive methods	China	Fair	1
Rosenblatt, 2009 (48)	Textile Workers aged 30–64 yr in Shanghai <u>Exposed</u> : 352,695 person-years <u>Unexposed</u> : 2,057,377 person-years	0.9	0.78 to 1.03	Age, parity	China	Poor	1
Hunter, 2010 (49)	Recruitment period: 1989–1991 Nurses' Health Study II of women aged 24–43 yr at study entry <u>Exposed</u> : 1,070,386 person-years <u>Unexposed</u> : 176,581 person-years Recruitment period: 1989–2001	NR	NR	NA	U.S.	Good	4

Study ^a	Study Details	OR ^b	95% CI	Covariates	Region	Study Quality	Meta-Analysis Code ^c
Rosenberg, 2010 (50)	Women aged 21–69 yr in Black Women’s Health Study <u>Exposed:</u> 445,824 person-years <u>Unexposed:</u> 128,768 person-years <u>ER+/PR+ receptor status</u> <u>Cases:</u> 284 <u>ER+/PR- receptor status</u> <u>Cases:</u> 80 <u>ER-/PR- receptor status</u> <u>Cases:</u> 46	 IRR=1.11 IRR=0.97 IRR=1.65	 0.86 to 1.42 0.61 to 1.54 1.19 to 2.30	Age, parity, BMI, family history, age at menarche, education, age at first birth, age at menopause, HRT, exercise, alcohol, questionnaire cycle	U.S.	Fair	8
Bernholtz, 2011 (51)	Recruitment period: 1995 Jewish women at high risk of developing breast or ovarian cancer <u>BRCA1 or BRCA2 carriers</u> <u>Exposed:</u> 403 <u>Unexposed:</u> 373 <u>BRCA1 carriers</u> <u>Exposed:</u> 309 <u>Unexposed:</u> 182 <u>BRCA2 carriers</u> <u>Exposed:</u> 136 <u>Unexposed:</u> 72 Recruitment period: 1996–2010	 1.84 1.72 2.07	 1.47 to 2.31 1.31 to 2.25 1.34 to 3.20	Age at menarche, breastfeeding, year of birth	Israel	Fair	3
Pooled							
Dolle, 2009 (52)	Women aged 21–45 yr in Seattle-Puget Sound <u>Cases:</u> 897 with invasive cancer; 187 with triple negative cancer; registries <u>Controls:</u> 1569, not reported Recruitment periods: 1983–1990; 1990–1992	 1.3 (all subjects) 2.5 (triple-negative subjects)	 1.0 to 1.7 1.4 to 4.3	Age, family history, breastfeeding history, oral contraceptive duration	U.S.	Fair	8

BMI, body mass index; CI, confidence interval; DMV, department of motor vehicles; ER, estrogen receptor; HRT, hormone replacement therapy; IRR, incidence rate ratio; NR, not reported; NZ, New Zealand; OC, oral contraceptive; OR, odds ratio; PR, progesterone receptor; SEER, Surveillance, Epidemiology, and End Results registry; UK, United Kingdom; U.S., United States; yr, year/years.

^a Study identifies the primary abstracted article. For details about the relationships between companion studies and articles, refer to Appendix C of the full AHRQ report.

^b Odds ratios for meta-analysis of ever versus never OC use.

^c Meta-analysis code: 1= Included in meta-analysis; 2 = Excluded due to family history of breast cancer; 3 = Excluded due to BRCA mutation carriers; 4 = Excluded due to age at diagnosis ≤ 45 years; 5 = Excluded due to overall ever versus never OR not reported or not calculable; 6 = Excluded due to cancer in situ only; 7 = Excluded due to all cases and controls having breast cancer; 8 = Excluded due to ER/PR/HER2 subtypes; 9 = Excluded due to data are subset of Shanghai Breast Cancer Study(35); 10 = Excluded due to targeting certain subtypes of cancer only.

References for Supplementary Table 1

1. Shapiro S, Rosenberg L, Hoffman M, Truter H, Cooper D, Rao S, et al. Risk of breast cancer in relation to the use of injectable progestogen contraceptives and combined estrogen/progestogen contraceptives. *Am J Epidemiol* 2000;151:396-403.
2. Van Hoften C, Burger H, Peeters PH, Grobbee DE, Van Noord PA, Leufkens HG. Long-term oral contraceptive use increases breast cancer risk in women over 55 years of age: the DOM cohort. *Int J Cancer* 2000;87:591-4.
3. Gomes AL, Guimaraes MD, Gomes CC, Chaves IG, Gobbi H, Camargos AF. Risk factors for breast cancer among pre- or post-menopausal women in Belo Horizonte, Brazil. *Gynecol Obstet Invest* 2001;52:173-9.
4. Moorman PG, Millikan RC, Newman B. Oral contraceptives and breast cancer among African-American women and white women. *J Natl Med Assoc* 2001;93:329-34.
5. Heimdal K, Skovlund E, Moller P. Oral contraceptives and risk of familial breast cancer. *Cancer Detect Prev* 2002;26:23-7.
6. Marchbanks PA, McDonald JA, Wilson HG, Folger SG, Mandel MG, Daling JR, et al. Oral contraceptives and the risk of breast cancer. *N Engl J Med* 2002;346:2025-32.
7. Narod SA, Dube MP, Klijn J, Lubinski J, Lynch HT, Ghadirian P, et al. Oral contraceptives and the risk of breast cancer in BRCA1 and BRCA2 mutation carriers. *J Natl Cancer Inst* 2002;94:1773-9.
8. Tryggvadottir L, Tulinius H, Eyfjord JE, Sigurvinsson T. Breast cancer risk factors and age at diagnosis: an Icelandic cohort study. *Int J Cancer* 2002;98:604-8.

9. Althuis MD, Brogan DD, Coates RJ, Daling JR, Gammon MD, Malone KE, et al. Breast cancers among very young premenopausal women (United States). *Cancer Causes Control* 2003;14:151-60.
10. Althuis MD, Brogan DR, Coates RJ, Daling JR, Gammon MD, Malone KE, et al. Hormonal content and potency of oral contraceptives and breast cancer risk among young women. *Br J Cancer* 2003;88:50-7.
11. Newcomer LM, Newcomb PA, Trentham-Dietz A, Longnecker MP, Greenberg ER. Oral contraceptive use and risk of breast cancer by histologic type. *Int J Cancer* 2003;106:961-4.
12. Norman SA, Berlin JA, Weber AL, Strom BL, Daling JR, Weiss LK, et al. Combined effect of oral contraceptive use and hormone replacement therapy on breast cancer risk in postmenopausal women. *Cancer Causes Control* 2003;14:933-43.
13. Suter NM, Malone KE, Daling JR, Doody DR, Ostrander EA. Androgen receptor (CAG)_n and (GGC)_n polymorphisms and breast cancer risk in a population-based case-control study of young women. *Cancer Epidemiol Biomarkers Prev* 2003;12:127-35.
14. Wrensch M, Chew T, Farren G, Barlow J, Belli F, Clarke C, et al. Risk factors for breast cancer in a population with high incidence rates. *Breast Cancer Res* 2003;5:R88-102.
15. Fowke JH, Shu XO, Dai Q, Jin F, Cai Q, Gao YT, et al. Oral contraceptive use and breast cancer risk: modification by NAD(P)H:quinone oxoreductase (NQO1) genetic polymorphisms. *Cancer Epidemiol Biomarkers Prev* 2004;13:1308-15.
16. Jernstrom H, Loman N, Johannsson OT, Borg A, Olsson H. Impact of teenage oral contraceptive use in a population-based series of early-onset breast cancer cases who have undergone BRCA mutation testing. *Eur J Cancer* 2005;41:2312-20.

17. Milne RL, Knight JA, John EM, Dite GS, Balbuena R, Ziogas A, et al. Oral contraceptive use and risk of early-onset breast cancer in carriers and noncarriers of BRCA1 and BRCA2 mutations. *Cancer Epidemiol Biomarkers Prev* 2005;14:350-6.
18. Gronwald J, Byrski T, Huzarski T, Cybulski C, Sun P, Tulman A, et al. Influence of selected lifestyle factors on breast and ovarian cancer risk in BRCA1 mutation carriers from Poland. *Breast Cancer Res Treat* 2006;95:105-9.
19. Haile RW, Thomas DC, McGuire V, Felberg A, John EM, Milne RL, et al. BRCA1 and BRCA2 mutation carriers, oral contraceptive use, and breast cancer before age 50. *Cancer Epidemiol Biomarkers Prev* 2006;15:1863-70.
20. Ma H, Bernstein L, Ross RK, Ursin G. Hormone-related risk factors for breast cancer in women under age 50 years by estrogen and progesterone receptor status: Results from a case-control and a case-case comparison. *Breast Cancer Research* 2006;8.
21. Rosenberg LU, Magnusson C, Lindstrom E, Wedren S, Hall P, Dickman PW. Menopausal hormone therapy and other breast cancer risk factors in relation to the risk of different histological subtypes of breast cancer: a case-control study. *Breast Cancer Res* 2006;8:R11.
22. Faheem M, Khurram M, Jafri IA, Mehmood H, Hasan Z, Iqbal GS, et al. Risk factors for breast cancer in patients treated at NORI Hospital, Islamabad. *J Pak Med Assoc* 2007;57:242-5.
23. Folger SG, Marchbanks PA, McDonald JA, Bernstein L, Ursin G, Berlin JA, et al. Risk of breast cancer associated with short-term use of oral contraceptives. *Cancer Causes Control* 2007;18:189-98.

24. Nichols HB, Trentham-Dietz A, Egan KM, Titus-Ernstoff L, Hampton JM, Newcomb PA. Oral contraceptive use and risk of breast carcinoma in situ. *Cancer Epidemiol Biomarkers Prev* 2007;16:2262-8.
25. Shantakumar S, Terry MB, Paykin A, Teitelbaum SL, Britton JA, Moorman PG, et al. Age and menopausal effects of hormonal birth control and hormone replacement therapy in relation to breast cancer risk. *Am J Epidemiol* 2007;165:1187-98.
26. Sweeney C, Giuliano AR, Baumgartner KB, Byers T, Herrick JS, Edwards SL, et al. Oral, injected and implanted contraceptives and breast cancer risk among U.S. Hispanic and non-Hispanic white women. *Int J Cancer* 2007;121:2517-23.
27. Figueiredo JC, Bernstein L, Capanu M, Malone KE, Lynch CF, Anton-Culver H, et al. Oral contraceptives, postmenopausal hormones, and risk of asynchronous bilateral breast cancer: the WECARE Study Group. *J Clin Oncol* 2008;26:1411-8.
28. Lee E, Ma H, McKean-Cowdin R, Van Den Berg D, Bernstein L, Henderson BE, et al. Effect of reproductive factors and oral contraceptives on breast cancer risk in BRCA1/2 mutation carriers and noncarriers: results from a population-based study. *Cancer Epidemiol Biomarkers Prev* 2008;17:3170-8.
29. Nyante SJ, Gammon MD, Malone KE, Daling JR, Brinton LA. The association between oral contraceptive use and lobular and ductal breast cancer in young women. *Int J Cancer* 2008;122:936-41.
30. Phillips LS, Millikan RC, Schroeder JC, Barnholtz-Sloan JS, Levine BJ. Reproductive and hormonal risk factors for ductal carcinoma in situ of the breast. *Cancer Epidemiol Biomarkers Prev* 2009;18:1507-14.

31. Rosenberg L, Zhang Y, Coogan PF, Strom BL, Palmer JR. A case-control study of oral contraceptive use and incident breast cancer. *Am J Epidemiol* 2009;169:473-9.
32. Figueiredo JC, Haile RW, Bernstein L, Malone KE, Largent J, Langholz B, et al. Oral contraceptives and postmenopausal hormones and risk of contralateral breast cancer among BRCA1 and BRCA2 mutation carriers and noncarriers: the WECARE Study. *Breast Cancer Res Treat* 2010;120:175-83.
33. Lumachi F, Frigo AC, Basso U, Tombolan V, Ermani M. Estrogen therapy and risk of breast cancer in postmenopausal women: a case-control study and results of a multivariate analysis. *Menopause* 2010;17:524-8.
34. Ma H, Wang Y, Sullivan-Halley J, Weiss L, Marchbanks PA, Spirtas R, et al. Use of four biomarkers to evaluate the risk of breast cancer subtypes in the women's contraceptive and reproductive experiences study. *Cancer Res* 2010;70:575-87.
35. Xu WH, Shu XO, Long J, Lu W, Cai Q, Zheng Y, et al. Relation of FGFR2 genetic polymorphisms to the association between oral contraceptive use and the risk of breast cancer in Chinese women. *Am J Epidemiol* 2011;173:923-31.
36. Marchbanks PA, Curtis KM, Mandel MG, Wilson HG, Jeng G, Folger SG, et al. Oral contraceptive formulation and risk of breast cancer. *Contraception* 2012;85:342-350.
37. Urban M, Banks E, Egger S, Canfell K, O'Connell D, Beral V, et al. Injectable and oral contraceptive use and cancers of the breast, cervix, ovary, and endometrium in black South African women: case-control study. *PLoS Med* 2012;9:e1001182.
38. Grabrick DM, Hartmann LC, Cerhan JR, Vierkant RA, Therneau TM, Vachon CM, et al. Risk of breast cancer with oral contraceptive use in women with a family history of breast cancer. *JAMA* 2000;284:1791-8.

39. Kumle M, Weiderpass E, Braaten T, Persson I, Adami HO, Lund E. Use of oral contraceptives and breast cancer risk: The Norwegian-Swedish Women's Lifestyle and Health Cohort Study. *Cancer Epidemiol Biomarkers Prev* 2002;11:1375-81.
40. Dumeaux V, Alsaker E, Lund E. Breast cancer and specific types of oral contraceptives: a large Norwegian cohort study. *Int J Cancer* 2003;105:844-50.
41. Dumeaux V, Fournier A, Lund E, Clavel-Chapelon F. Previous oral contraceptive use and breast cancer risk according to hormone replacement therapy use among postmenopausal women. *Cancer Causes Control* 2005;16:537-44.
42. Silvera SA, Miller AB, Rohan TE. Oral contraceptive use and risk of breast cancer among women with a family history of breast cancer: a prospective cohort study. *Cancer Causes Control* 2005;16:1059-63.
43. Vessey M, Painter R. Oral contraceptive use and cancer. Findings in a large cohort study, 1968-2004. *Br J Cancer* 2006;95:385-9.
44. Brohet RM, Goldgar DE, Easton DF, Antoniou AC, Andrieu N, Chang-Claude J, et al. Oral contraceptives and breast cancer risk in the international BRCA1/2 carrier cohort study: a report from EMBRACE, GENEPSO, GEO-HEBON, and the IBCCS Collaborating Group. *J Clin Oncol* 2007;25:3831-6.
45. Hannaford PC, Selvaraj S, Elliott AM, Angus V, Iversen L, Lee AJ. Cancer risk among users of oral contraceptives: cohort data from the Royal College of General Practitioner's oral contraception study. *BMJ* 2007;335:651.
46. Lund E, Bakken K, Dumeaux V, Andersen V, Kumle M. Hormone replacement therapy and breast cancer in former users of oral contraceptives--The Norwegian Women and Cancer study. *Int J Cancer* 2007;121:645-8.

47. Dorjgochoo T, Shu XO, Li HL, Qian HZ, Yang G, Cai H, et al. Use of oral contraceptives, intrauterine devices and tubal sterilization and cancer risk in a large prospective study, from 1996 to 2006. *Int J Cancer* 2009;124:2442-9.
48. Rosenblatt KA, Gao DL, Ray RM, Nelson ZC, Wernli KJ, Li W, et al. Oral contraceptives and the risk of all cancers combined and site-specific cancers in Shanghai. *Cancer Causes Control* 2009;20:27-34.
49. Hunter DJ, Colditz GA, Hankinson SE, Malspeis S, Spiegelman D, Chen W, et al. Oral contraceptive use and breast cancer: a prospective study of young women. *Cancer Epidemiol Biomarkers Prev* 2010;19:2496-502.
50. Rosenberg L, Boggs DA, Wise LA, Adams-Campbell LL, Palmer JR. Oral contraceptive use and estrogen/progesterone receptor-negative breast cancer among African American women. *Cancer Epidemiol Biomarkers Prev* 2010;19:2073-9.
51. Bernholtz S, Laitman Y, Kaufman B, Paluch Shimon S, Friedman E. Cancer risk in Jewish BRCA1 and BRCA2 mutation carriers: Effects of oral contraceptive use and parental origin of mutation. *Breast Cancer Research and Treatment* 2011;129:557-563.
52. Dolle JM, Daling JR, White E, Brinton LA, Doody DR, Porter PL, et al. Risk factors for triple-negative breast cancer in women under the age of 45 years. *Cancer Epidemiol Biomarkers Prev* 2009;18:1157-66.