Supplementary Table 1: Prospective studies of body mass index, waist circumference and waist-to-hip ratio and ovarian cancer

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| Author, publication year, country/ region | Study name | Follow-up period | Study size, age, number of cases | Assessment of weight and height | Exposure | Description of quantiles or categories | RR (95% CI) | Adjustment for confounders |
| Khan MMH et al, 2013, Japan | Japan Collaborative Cohort Study | 1988-2009, 16.41 years follow-up | 64185 pre- & postm. women, age 40-79 years: 98 deaths | Self-reported | BMI  BMI, age <50 years  BMI, age ≥50 years | <18.5  18.5-24.9  ≥25  <18.5  18.5-24.9  ≥25  <18.5  18.5-24.9  ≥25 | 1.00 (0.23-4.22)  1.00  1.53 (0.76-3.09)  1.22 (0.16-9.33)  1.00  2.10 (0.84-5.27)  1.53 (0.65-3.61)  1.00  1.12 (0.64-1.96) | Age, education, FH – cancer, hypertension, diabetes, operation, sports, walking, smoking, alcohol, marital status, age at marriage, pregnancy, live birth, age at 1st delivery, age at menarche, age at menopause, history of hormonal drug use, |
| Ma X et al, 2013, China | Shanghai Women’s Health Study | 1996/2000 – 2009, 10.84 years follow-up | 70258 pre- & postm. women, age 40-70 years: 152 cases | Measured | Weight  BMI  Waist circumference  Hip circumference  WHR  Weight gain from age 20 years | <53.50 kg  53.50-58.99  59.00-64.99  ≥65.00  <18.50  18.50-24.99  25.00-29.99  ≥30.00  <72.00 cm  72.00-76.99  77.00-82.99  ≥83.00  <90.50 cm  90.50-94.99  95.00-99.99  ≥100.00  <0.77  0.77-0.81  0.81-0.84  ≥0.84  <4.00 kg  4.00-9.99  10.00-15.99  ≥16.00 | 1.00  1.22 (0.74-2.02)  1.37 (0.84-2.23)  1.71 (1.08-2.71)  1.73 (0.80-3.75)  1.00  1.49 (1.05-2.13)  2.42 (1.37-4.28)  1.00  1.36 (0.82-2.26)  1.50 (0.92-2.46)  1.61 (0.98-2.64)  1.57 (0.92-2.69)  1.00  1.70 (1.03-2.82)  2.14 (1.33-3.45)  1.00  1.13 (0.69-1.87)  1.28 (0.76-2.16)  1.25 (0.76-2.07)  1.00  1.83 (1.05-3.21)  1.97 (1.12-3.46)  2.33 (1.33-4.06) | Age, education |
| Weiderpass E et al, 2012, Japan | Japan Public Health Center-based Prospective Study | 1990/1994 – 2008, 16 years follow-up | 45748 women, age 40-69 years: 86 cases | Self-reported (validated) | BMI | <18.5  18.5-19.9  20-22.9  23-24.9  25-29.9  >29.9  Per 1 unit | 0.7 (0.2-2.9)  1.0 (0.4-2.2)  1.0  1.2 (0.7-2.0)  1.0 (0.5-1.7)  0.8 (0.2-3.3)  1.00 (0.94-1.08) | Age, age at menarche, parity, age at 1st birth, breastfeeding, use of exogenous hormones, menopausal status, smoking status, exposure to second-hand smoke in never smokers, alcohol, physical activity, sleep duration, FH – cancer in 1st degree relative |
| Andreotti G et al, 2010, USA | Agricultural Health Study | 1993/97 – 2005, 10 years follow-up | 28319 pre- & postm. women, age <40-70 years: 48 cases | Self-reported | BMI | 18.5-24.9  25-29.9  30-34.9  Per 1 unit | 1.00  1.44 (0.78-2.67)  0.48 (0.14-1.63)  0.98 (0.92-1.05) | Age |
| Canchola AJ et al, 2010, USA | California Teachers Study | 1995-2007, 12.1 years follow-up (baseline measures)  10.1 years for waist circum-ferences | 56091 peri- & postm. women, age ≥45 years: 277 cases | Self-reported (validated) | BMI, never used HT  BMI at age 18  Weight change since age 18  BMI, HT ≤5 years  BMI at age 18  Weight change since age 18  BMI, HT >5 years  BMI at age 18  Weight change since age 18 | <25  25-29  ≥30  <25  ≥25  Loss, >10 lb  Stable, ±10 lb  Gain, 11-39 lb  Gain, ≥40  <25  25-29  ≥30  <25  ≥25  Loss, >10 lb  Stable, ±10 lb  Gain, 11-39 lb  Gain, ≥40  <25  25-29  ≥30  <25  ≥25  Loss, >10 lb  Stable, ±10 lb  Gain, 11-39 lb  Gain, ≥40 | 1.0  1.1 (0.71-1.8)  1.2 (0.72-2.0)  1.0  1.4 (0.82-2.4)  1.8 (0.94-3.5)  1.0  0.96 (0.55-1.7)  1.8 (1.0-3.0)  1.2 (0.76-1.8)  1.3 (0.74-2.1)  0.65 (0.28-1.5)  1.0 (0.71-1.4)  1.1 (0.52-2.5)  2.0 (0.90-4.4)  2.2 (1.2-3.9)  0.81 (0.42-1.5)  1.4 (0.83-2.4)  1.8 (1.2-2.6)  1.7 (1.1-2.8)  1.1 (0.53-2.5)  1.6 (1.1-2.2)  1.9 (0.94-3.9)  2.9 (1.4-6.1)  1.3 (1.3-4.1)  1.7 (0.98-3.0)  1.9 (0.99-3.5) | Age, race, OC use and duration, number of full-term pregnancies, wine consumption, physical activity, smoking history, history of tubal ligation, height |
| Chionh F et al, 2010, Australia | Melbourne Collaborative Cohort Study | 1990/1994 - 2008, 10.2 years follow-up | 18700 pre- & postm. women, age 26-76 years: 113 cases | Measured | BMI  Height  Waist circumference | <25  25-29  ≥30  Per 5 units  <155.2 cm  155.2-160  160-164.3  ≥164.3  Per 10 cm  <71.2 cm  71.2-78.2  78.2-87  ≥87  Per 10 cm | 1.05 (0.66-1.65)  1.00  1.58 (0.96-2.62)  1.22 (1.00-1.48)  1.00  0.87 (0.52-1.48)  1.01 (0.60-1.72)  0.97 (0.54-1.76)  1.13 (0.82-1.55)  1.00  0.97 (0.56-1.69)  1.03 (0.59-1.78)  0.96 (0.54-1.69)  1.03 (0.87-1.23) | Age, country of birth, education, age at menarche, parity, age at 1st pregnancy, duration of lactation, OC use, HRT use, previous hysterectomy, menstrual periods and reason for amenorrhea, smoking, energy, total physical activity |
| Kotsopoulos J et al, 2010, USA | Nurses’ Health Study 1 | 1976-2006, 30 years follow-up | 77264 women (BMI), age 30-55 years: 732 cases  (41531: 291 for WHR) | Self-reported (validated) | BMI  WHR  Waist circumference  Hip circumference | <21.0  21-<23  23-<25  25-<30  ≥30  <0.73  0.73-0.75  0.76-0.79  0.80-0.83  ≥0.84  <28 inches  28-<30  30-<32  32-<35  ≥35  <37 inches  38-<38.5  38.5-<40.5  40.5-<43.0  43.0-65.0 | 1.00  1.03 (0.80-1.33)  1.12 (0.87-1.44)  0.96 (0.75-1.22)  1.11 (0.85-1.45)  1.00  0.70 (0.45-1.07)  1.06 (0.74-1.52)  1.23 (0.85-1.79)  0.78 (0.52-1.16)  1.00  0.91 (0.62-1.33)  0.94 (0.62-1.41)  0.76 (0.49-1.18)  0.99 (0.59-1.64)  1.00  0.78 (0.54-1.12)  0.66 (0.45-0.97)  0.57 (0.36-0.90)  0.67 (0.39-1.17) | Age, age at menarche, parity, OC use, tubal ligation history, height, family history of breast or ovarian cancer, caffeine intake, hysterectomy, postmenopausal hormone use and menopausal status  WHR also adjusted for BMI  Hip circumference also adjusted for waist circumference and BMI  Waist circumference also adjusted for hip circumference and BMI |
| Kotsopoulos J et al, 2010, USA | Nurses’ Health Study 11 | 1989-2005, 16 years follow-up | 105524 women (BMI), age 25-42 years: 130 cases  (47590:52 for WHR) | Self-reported (validated) | BMI  WHR  Waist circumference  Hip circumference | <21.0  21-<23  23-<25  25-<30  ≥30  <0.73  0.73-0.75  0.76-0.79  0.80-0.83  ≥0.84  <28 inches  28-<30  30-<32  32-<35  ≥35  <37 inches  38-<38.5  38.5-<40.5  40.5-<43.0  43.0-65.0 | 1.00  0.67 (0.36-1.26)  0.51 (0.25-1.03)  1.13 (0.66-1.92)  1.36 (0.80-2.33)  1.00  0.99 (0.41-2.40)  1.04 (0.46-2.36)  0.70 (0.52-1.91)  1.08 (0.46-2.55)  1.00  0.86 (0.35-2.14)  0.52 (0.16-1.66)  2.15 (0.91-5.05)  1.12 (0.35-3.57)  1.00  0.86 (0.35-2.13)  0.52 (0.16-1.66)  2.14 (0.91-5.04)  1.12 (0.35-3.57) | Age, age at menarche, parity, OC use, tubal ligation history, height, family history of breast or ovarian cancer, caffeine intake, hysterectomy, postmenopausal hormone use and menopausal status  WHR also adjusted for BMI  Hip circumference also adjusted for waist circumference and BMI  Waist circumference also adjusted for hip circumference and BMI |
| Leitzmann MF et al, 2009, USA | NIH-AARP Diet and Health Study | 1996/1997 – 2003, 7 years follow-up | 94525 women, age 50-71 years: 303 cases | Self-reported | BMI  BMI, never HRT use  BMI, ever HRT use  BMI at age 18 years | <25.0  25.0-29.9  ≥30  <25.0  25.0-29.9  ≥30  <25.0  25.0-29.9  ≥30  <25.0  25.0-29.9  ≥30 | 1.00  0.89 (0.69-1.18)  1.26 (0.94-1.68)  1.00  1.39 (0.89-2.14)  1.83 (1.18-2.84)  1.00  0.68 (0.48-0.98)  0.96 (0.65-1.43)  1.00  1.29 (0.82-2.04)  1.74 (0.86-3.53) | Age, race/ethnicity, family history of ovarian cancer, family history of breast cancer, duration of OC use, menopausal hormone therapy, physical activity |
| Lahmann P et al, 2009, Europe | European Prospective Investigation into Cancer and Nutrition | 1992/2000 – 2004/2006, 8.9 years follow-up | 226798 women, age 35-70 years: 611 cases  Weight change: 118493: 336 cases | Measured | BMI  Weight  Height  Waist circumference  Hip circumference  Waist-to-hip ratio  Weight change | <25  25-30  ≥30  Per 2 units  <58.1 kg  58.1-64.6  64.6-72.6  >72.6  Per 5 kg  <157.0 cm  157.0-161.8  161.8-166.2  >166.2  Per 5 cm  <71.7 cm  71.7-78.0  78.0-87.0  >87.0  Per 5 cm  <94.7 cm  94.7-100.0  100.0-106.0  >106.0  Per 5 cm  <0.74  0.74-0.78  0.78-0.83  >0.83  Per 0.05 units  -5 kg  ±5 kg  5-10  10-15  15-20  >20  Per 5 kg | 1.00  1.14 (0.94-1.37)  1.33 (1.05-1.68)  1.05 (1.01-1.08)  1.00  1.08 (0.85-1.37)  1.18 (0.93-1.49)  1.27 (1.00-1.61)  1.05 (1.01-1.08)  1.00  1.06 (0.84-1.33)  1.03 (0.81-1.31)  1.12 (0.87-1.45)  1.05 (0.98-1.12)  1.00  1.03 (0.81-1.31)  1.10 (0.87-1.41)  1.12 (0.86-1.45)  1.02 (0.98-1.06)  1.00  1.01 (0.79-1.28)  1.07 (0.84-1.37)  1.33 (1.04-1.70)  1.06 (1.01-1.10)  1.00  0.86 (0.68-1.09)  0.96 (0.76-1.20)  0.91 (0.72-1.17)  0.98 (0.92-1.05)  0.93 (0.55-1.60)  1.00  0.87 (0.65-1.17)  1.02 (0.76-1.37)  1.00 (0.71-1.40)  0.95 (0.69-1.32)  1.02 (0.97-1.07) | Age, study center, parity, age at menarche, menopausal status, smoking status, OC use, education, unilateral ovariectomy, HRT use |
| Song YM et al, 2008, Korea | Korea Medical Insurance Corporation Study | 1993/1994 – 2003, 8.75 years follow-up | 152772 postm. women, age 40-64 years: 176 cases | Measured | BMI | <18.5  18.5-20.9  21.0-22.9  23.0-24.9  25.0-26.9  27.0-29.9  ≥30.0  Per 1 unit | 0.98 (0.29-3.24)  0.85 (0.43-1.68)  1.00  1.63 (1.01-2.63)  1.62 (0.98-2.67)  1.57 (0.91-2.73)  0.93 (0.32-2.67)  1.04 (0.99-1.09) | Age, height, smoking status, alcohol, physical exercise, pay level |
| Baer HJ et al, 2008, USA | Nurses’ Health Study 1 | 1976-2004, 28 years follow-up | 110311 pre- & postm. women, age 30-55 years: 735 cases | Self-reported | BMI at age 18 yrs | <20  20-20.9  21-22.9  23-24.9  ≥25 | 1.00  0.89 (0.69-1.13)  1.02 (0.82-1.26)  1.10 (0.84-1.43)  1.06 (0.79-1.41) | Age, parity, duration of OC use, tubal ligation history, height |
| Baer HJ et al, 2008, USA | Nurses’ Health Study 2 | 1989-2005, 16 years follow-up | 113059 pre- & postm. women, age 25-42 years: 137 cases | Self-reported (validated) | BMI at age 18 yrs | <20  20-20.9  21-22.9  23-24.9  ≥25 | 1.00  1.79 (1.10-2.91)  1.87 (1.19-2.95)  1.46 (0.79-2.71)  1.57 (0.88-2.79) | Age, parity, duration of OC use, tubal ligation history, height |
| Lundqvist E et al, 2007, Sweden & Finland | Swedish and Finish Twin Cohorts | Sweden:  1961/1973 – 2002  Finland:  1975/1976 – 2004  Total follow-up: 26.3 years | 36490 pre- & postm. women, age 18-96 years: 313 cases | Self-reported | BMI, older subjects  BMI, younger subjects | <18.5  18.5-<25.0  25.0-<30.0  ≥30  Per 1 unit  <18.5  18.5-<25.0  25.0-<30.0  ≥30  Per 1 unit | 0.4 (0.1-2.6)  1.0  1.2 (0.8-1.6)  0.7 (0.3-1.6)  1.00 (0.96-1.04)  0.7 (0.3-1.4)  1.0  1.5 (1.0-2.3)  0.8 (0.2-2.6)  1.06 (1.02-1.11) | Age, country, smoking, leisure-time physical activity, educational level, diabetes, parity |
| Reeves GK et al, 2007, UK | The Million Women Study | 1996/2001 – 2003/2004, 5.4 years follow-up | 1222630 women, age 50-64 years: 305 cases | Self-reported | BMI, incidence  BMI, never smokers  BMI, excluding first 2 years of follow-up  BMI, premenopausal  BMI, postmenopausal  BMI, mortality | <22.5  22.5-24.9  25-27.4  27.5-29.5  ≥30  Per 10 units  Per 10 units  Per 10 units  Per 10 units  Per 10 units  <22.5  22.5-24.9  25-27.4  27.5-29.5  ≥30  Per 10 units | 0.98 (0.89-1.07)  1.00 (0.92-1.08)  0.99 (0.91-1.08)  1.13 (1.02-1.25)  1.12 (1.02-1.23)  1.14 (1.03-1.27)  1.12 (0.97-1.30)  1.10 (0.97-1.26)  1.28 (0.81-2.00)  1.12 (0.95-1.31)  0.96 (0.86-1.07)  1.00 (0.91-1.10)  0.93 (0.84-1.03)  1.02 (0.89-1.16)  1.16 (1.04-1.30)  1.17 (1.03-1.33) | Age, geographical region, socioeconomic status, age at 1st birth, parity, smoking status, alcohol intake, physical activity |
| Kiani F et al, 2006, USA | The Adventist Health Study | 1976-1992, ~16 years follow-up | 13281 pre-& postm. Women, age ≥25 years: 71 cases | Self-reported | BMI | ≤23.2  23.3-25.8  ≥25.9 | 1.00  1.23 (0.65-2.32)  1.33 (0.72-2.47) | Age |
| Lacey JV Jr et al, 2006, USA | Breast Cancer Detection Demonstration Project Follow-up Study | 1973-1979 – 1995-97, 14.5 years follow-up | 46026 pre- & postm. women, age 31-89 years: 346 cases | Measured | Weight  BMI  BMI, time-dependent  Usual adult BMI | ≤120 lbs  121-131  132-142  143-160  ≥161  Per 5 lbs  <18.5  18.5-24.9  25.0-29.9  30.0-34  ≥35.0  Per 1 unit  <18.5  18.5-24.9  25.0-29.9  30.0-34  ≥35.0  <25  25-29.9  ≥30.0 | 1.00  0.95 (0.68-1.36)  1.04 (0.75-1.45)  1.03 (0.75-1.44)  1.09 (0.77-1.55)  1.01 (0.98-1.03)  0.95 (0.45-2.01)  1.00  1.00 (0.78-1.29)  0.94 (0.59-1.48)  1.55 (0.84-2.84)  1.01 (0.98-1.03)  0.65 (0.29-1.47)  1.00  1.03 (0.81-1.32)  0.82 (0.52-1.29)  1.35 (0.73-2.48)  1.00  1.12 (0.82-1.55)  1.17 (0.65-2.11) | Age, calendar times, race, ethnicity, menopausal status, parity, OC use, menopausal estrogen therapy |
| Kuriyama S et al, 2005, Japan | Miyagi Prefecture Cohort Study | 1984 – 1992, 7.6 years follow-up | 15054 pre- & postm. women, age ≥40 years: 20 cases | Self-reported | BMI | 18.5-24.9  25.0-27.4  27.5-29.9 | 1.00  0.80 (0.23-2.80)  0.85 (0.19-3.81) | Age, smoking status, alcohol drinking, meat, fish, fruits, green or yellow vegetables, bean-paste soup, type of health insurance, menopausal status, parity, age at menarche, age at end of first pregnancy |
| Rapp K et al, 2005, Austria | The Vorarlberg Health Monitoring and Promotion Program | 1985/2001 – 2002, 9.9 years follow-up | 78484 pre- & postm. women, age 35-54 years: 121 cases | Measured | BMI | 18.5-24.9  25.0-29.9  ≥30 | 1.00  1.03 (0.68-1.56)  1.25 (0.75-2.08) | Age, smoking status, occupational group |
| Anderson JP et al, 2004, USA | Iowa Women’s Health Study | 1986 – 2000, 14 years follow-up | 31381 postm. women, age 55-69 years: 223 cases | Self-reported (validated) | BMI  Waist-to-hip ratio    BMI at age 18 years | <25  25-30  ≥30  ≤0.78  0.79-0.83  0.84-0.89  >0.89  <25  25-30  ≥30 | 1.00  1.14 (0.83-1.56)  1.18 (0.83-1.69)  1.00  1.77 (1.19-2.63)  1.17 (0.76-1.81)  1.59 (1.05-2.40)  1.00  1.03 (0.64-1.66)  1.83 (0.90-3.72) | Age, FH – OC, hysterectomy status, oophorectomy status, number of live births, pack-years of smoking, estrogen replacement therapy |
| Engeland A et al, 2003, Norway | Norwegian Tuberculosis Screening Program | 1963-1999  follow-up: 24.7 y | 10673576 pre- & postm. women, age 14-74 years: 7882 cases | Measured | BMI, adulthood measurement  BMI, age 20-29 years | <18.5  18.5-24.9  25.0-29.9  ≥30  <18.5  18.5-24.9  25.0-29.9  ≥30 | 1.09 (0.92-1.30)  1.00  0.96 (0.91-1.01)  0.98 (0.92-1.05)  0.97 (0.71-1.33)  1.00  1.02 (0.83-1.25)  1.45 (1.02-2.04) | Age, height and BMI mutually adjusted |
| Jonsson F et al, 2003, Sweden | Swedish Twin Registry | 1969 – 1997, 26 years follow-up | 11598 pre- & postm. women, age 44-83 years: 175 cases | Self-reported | Weight change | <0 kg  0-5  6-10  11-20  ≥21 | 1.0 (0.5-2.1)  1.0  1.9 (0.9-3.7)  2.8 (1.4-5.7)  2.4 (1.1-5.0) | Age |
| Schouten LJ et al, 2003, Netherlands | Netherlands Cohort Study | 1986-1993, 7.3 years follow-up | 62573 postm. women, age 55-69 years: 172 cases | Self-reported | Weight at baseline  BMI  Weight at age 20 years  BMI at age 20 years | <65 kg  65-69  70-74  75-79  80+  per 10 kg increase  24.9  25-29.9  30+  per 8 kg/m2 increase  49 kg  50-54  55-59  60-64  65+  per 1 kg increase  <20  20-20.9  21-22.9  23.0+  per 8 kg/m2 increase | 1.00  1.25 (0.77-2.03)  1.23 (0.76-1.99)  1.54 (0.89-2.65)  1.32 (0.78-2.25)  1.16 (0.98-1.37)  1.00  1.21 (0.84-1.73)  1.69 (1.00-2.86)  1.25 (0.88-1.78)  1.00  1.15 (0.53-2.48)  1.79 (0.86-3.72)  1.55 (0.77-3.13)  1.11 (0.53-2.32)  0.99 (0.81-1.21)  1.00  1.50 (0.89-2.51)  1.06 (0.68-1.67)  0.79 (0.481-32)  0.85 (0.56-1.31) | Age, ever use of OC, parity, ever use of postmenopausal HRT |
| Lukanova A et al, 2002, USA | New York University Women’s Health Study, Northern Sweden Health and Disease Study, the Hormones and Diet in the Etiology of Breast cancer Study | 1985/1991  1980  1987/1992, NA | Nested case-control study:  71 cases  139 controls  35 cases  64 controls  16 cases  30 controls | Self-reported  Measured (77%) and self-reported (validated)  Measured | BMI | <23.1  23.1-25.5  25.5-28.4  ≥28.4 | 1.00  0.62 (0.32-1.21)  0.59 (0.30-1.17)  0.46 (0.23-0.92) | Age, study cohort, time at recruitment into the study, menopausal status, day of menstrual cycle for premenopausal women, parity, OC use, smoking |
| Rodriguez C et al, 2002, USA | Cancer Prevention Study 2 | 1982-1998, 16 years follow-up | 300537 postm. women, age <40->69 years: 1511 deaths | Self-reported | BMI  BMI | <25.0  25.0-<30  ≥30  <18.5  18.5-<20.5  20.5-<22.0  22.0-<23.5  23.5-<25.0  25.0-<26.5  26.5-<28.0  28.0-<30.0  30.0-<35.0  ≥35.0 | 1.00  1.16 (1.04-1.30)  1.26 (1.07-1.48)  0.98 (0.67-1.45)  1.00  1.18 (0.96-1.46)  0.95 (0.77-1.17)  0.95 (0.76-1.18)  1.00 (0.79-1.26)  1.32 (1.05-1.65)  1.28 (1.01-1.63)  1.21 (0.95-1.54)  1.54 (1.12-2.14) | Age, race, height, exercise, age at menarche, age at menopause, duration of OC use, status and duration of HRT use, number of full-term pregnancies |
| Fairfield K et al, 2002, USA | Nurses’ Health Study | 1980-1996, 16 years follow-up | 109445 pre- & postm. women, age 34-59 years: 331 cases | Self-reported (validated) | Weight change | ->2.0 kg  ±2 kg  +2.1-10.0  10.1-20.0  >20.0 | 0.85 (0.53-1.36)  1.00  0.97 (0.67-1.39)  0.82 (0.55-1.20)  0.61 (0.40-0.95) | Age, BMI at age 18, duration of oral contraceptive use, parity, age at menarche, smoking, tubal ligation history |
| Folsom AR et al, 2000, USA | Iowa Women’s Health Study | 1986 - 1996, 11-12 yrs | 31702 postm. women, age 55-69 years: 141 cases | Self-reported (validated) | Waist circumference | <74.3 cm  74.3-79.9  80.0-87.2  87.3-95.9  ≥96.0 | 1.0  1.1 (0.6-1.9)  0.65 (0.3-1.2)  1.5 (0.9-2.5)  1.3 (0.8-2.2) | Age |
| Tørnberg & Carstensen, 1994, Sweden | NA | 1963-1987, 1963-1987, ~20 years follow-up | 47003 pre- & postm. women, age <75 years: 330 cases | Measured | BMI, age <55 years  BMI, age 55+ years  BMI, all | <22  22-23.9  24-25.9  26-27.9  ≥28  Per unit  <22  22-23.9  24-25.9  26-27.9  ≥28  Per unit  <22  22-23.9  24-25.9  26-27.9  ≥28  Per unit | 1.00  1.44  1.06  1.35  1.66  1.10 (0.95-1.27)  1.00  0.96  0.67  0.72  0.87  0.95 (0.87-1.05)  1.00  1.15  0.81  0.91  1.08  1.00 (0.92-1.08) | Age, period of follow-up |

FH – cancer, family history of cancer, FH – OC, family history of ovarian cancer, HRT use, hormone replacement therapy use, NA, not available, OC use, oral contraceptive use, pre- & postm.- pre- and postmenopausal

Supplementary Table 2: Prospective studies of height and ovarian cancer risk

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, publication year, country/ region | Study name | Follow-up period | Study size, age, number of cases | Assessment of weight and height | Exposure | Description of quantiles or categories | RR (95% CI) | Adjustment for confounders |
| Kabat GC et al, 2013, USA | Women’s Health Initiative | 1993/1998 – 2012, 12 years follow-up | 144015 postm. women, age 50-79 years: 683 cases | Measured | Height | Per 10 cm | 1.11 (0.98-1.26) | Age, alcohol, pack-years of smoking, HRT, parity, OC use, education, ethnicity, randomization status, BMI |
| Ma X et al, 2013, China | Shanghai Women’s Health Study | 1996/2000 – 2009, 10.84 years follow-up | 70258 pre- & postm. women, age 40-70 years: 152 cases | Measured | Height | <154.00 cm  154.00-157.99  158.00-160.99  ≥161.00 | 1.00  1.13 (0.69-1.85)  1.55 (0.95-2.54)  1.43 (0.87-2.35) | Age, education |
| Kabat GC et al, 2013, Canada | Canadian National Breast Screening Study | 1980/1985 – 1998/2000, 16.2 years follow-up | 88256 pre- & postm. women, age 40-59 years: 471 cases | Measured | Height | Per 10 cm | 1.21 (1.04-1.40) | Age, menopausal status, years of education, pack-years of smoking, age at menarche, parity, OC use, HRT |
| Weiderpass E et al, 2012, Japan | Japan Public Health Center-based Prospective Study | 1990/1994 – 2008, 16 years follow-up | 45748 women, age 40-69 years: 86 cases | Self-reported (validated) | Height | Per 10 cm | 1.03 (0.68-1.55) | Age, age at menarche, parity, age at 1st birth, breastfeeding, use of exogenous hormones, menopausal status, smoking status, exposure to second-hand smoke in never smokers, alcohol, physical activity, sleep duration, FH – cancer in 1st degree relative |
| Green J et al, 2011, United Kingdom | Million Women Study | 1996/2001 – 2008, 9.4 years follow-up | 1297124 pre- & postm. women, mean age 56 years: 4830 cases | Self-reported (validated) | Height | Per 10 cm | 1.17 (1.09-1.25) | Age, region, SES, smoking, alcohol, BMI, strenous exercise, age at menarche, parity, age at first birth |
| Chionh F et al, 2010, Australia | Melbourne Collaborative Cohort Study | 1990/1994 - 2008, 10.2 years follow-up | 18700 pre- & postm. women, age 26-76 years: 113 cases | Measured | Height | <155.2 cm  155.2-160  160-164.3  ≥164.3  Per 10 cm | 1.00  0.87 (0.52-1.48)  1.01 (0.60-1.72)  0.97 (0.54-1.76)  1.13 (0.82-1.55) | Age, country of birth, education, age at menarche, parity, age at 1st pregnancy, duration of lactation, OC use, HRT use, previous hysterectomy, menstrual periods and reason for amenorrhea, smoking, energy, total physical activity |
| Sung J et al, 2009, Korea | Korea Medical Insurance Corporation Study | 1993/1994 – 2003, 8.72 years follow-up | 339575 pre- & postm. women, age 40-64 years: 398 cases | Measured | Height | ≤151.0 cm  151.1-155.0  155.1-158.0  >158.0  Per 5 cm | 1.00  1.14 (0.78-1.67)  1.42 (0.95-2.11)  1.68 (1.14-2.48)  1.24 (1.08-1.41) | Age, BMI, cigarette smoking, alcohol, regular exercise, monthly salary, occupation, area of residence, age at menarche, duration of breastfeeding, age at 1st childbirth, menopausal status, estrogen replacement, OC use |
| Lahmann P et al, 2009, Europe | European Prospective Investigation into Cancer and Nutrition | 1992/2000 – 2004/2006, 8.9 years follow-up | 226798 pre- & postm. women, age 35-70 years: 611 cases | Measured | Height | <157.0 cm  157.0-161.8  161.8-166.2  >166.2  Per 5 cm | 1.00  1.06 (0.84-1.33)  1.03 (0.81-1.31)  1.12 (0.87-1.45)  1.05 (0.98-1.12) | Age, study center, parity, age at menarche, menopausal status, smoking status, OC use, education, unilateral ovariectomy, HRT use |
| Baer HJ et al, 2008, USA | Nurses’ Health Study 1 | 1976-2004, 28 years follow-up | 110311 pre- & postm. women, age 30-55 years: 735 cases | Self-reported (validated) | Height | <1.6 m  1.6-<1.65  1.65-<1.7  1.7-<1.75  ≥1.75 | 1.00  1.16 (0.94-1.43)  1.11 (0.89-1.37)  1.39 (1.10-1.75)  1.27 (0.88-1.82) | Age, parity, duration of OC use, tubal ligation history, BMI |
| Baer HJ et al, 2008, USA | Nurses’ Health Study 2 | 1989-2005, 16 years follow-up | 113059 pre- & postm. women, age 25-42 years: 137 cases | Self-reported (validated) | Height | <1.6 m  1.6-<1.65  1.65-<1.7  1.7-<1.75  ≥1.75 | 1.00  1.41 (0.80-2.49)  1.39 (0.78-2.47)  1.96 (1.10-3.50)  2.35 (1.19-4.63) | Age, parity, duration of OC use, tubal ligation history, BMI |
| Lundqvist E et al, 2007, Sweden & Finland | Swedish and Finish Twin Cohorts | Sweden:  1961/1973 – 2002  Finland:  1975/1976 – 2004, 26.3 years follow-up | 36490 pre- & postm. women, age 18-96 years: 313 cases | Self-reported | Height | 1  2  3  4  Per 1 SD | 1.0  0.8 (0.5-1.1)  1.2 (0.8-1.6)  1.5 (1.1-2.0)  1.14 (1.01-1.28) | Age, country, smoking, leisure-time physical activity, educational level, diabetes, parity |
| Lacey JV Jr et al, 2006, USA | Breast Cancer Detection Demonstration Project Follow-up Study | 1973-1979 – 1995-97, 14.5 years follow-up | 46026 pre- & postm. women, age 31-89 years: 346 cases | Measured | Height | <62 inches  62-63  64-65  ≥66  Per 1 inch | 1.00  0.84 (0.60-1.17)  0.85 (0.61-1.18)  0.90 (0.64-1.26)  1.00 (0.95-1.04) | Age, calendar times, race, ethnicity, menopausal status, parity, OC use, menopausal estrogen therapy |
| Anderson JP et al, 2004, USA | Iowa Women’s Health Study | 1986 – 2000, 14 years follow-up | 31381 postm. women, age 55-69 years: 223 cases | Self-reported (validated) | Height | ≤155 cm  156-160  161-165  >165 | 1.00  0.98 (0.68-1.42)  1.08 (0.68-1.71)  1.12 (0.78-1.61) | Age, FH – OC, hysterectomy status, oophorectomy status, number of live births, pack-years of smoking, estrogen replacement therapy |
| Engeland A et al, 2003, Norway | Norwegian Tuberculosis Screening Program | 1963-1999, 24.7 years follow-up | 10673576 pre- & postm. women, age 14-74 years: 7882 cases | Measured | Height | <150 cm  150-154  155-159  160-164  165-169  170-174  ≥175 | 0.98 (0.82-1.16)  0.87 (0.79-0.95)  0.96 (0.90-1.02)  1.00  1.08 (1.01-1.14)  1.15 (1.06-1.25)  1.29 (1.11-1.51) | Age, height and BMI mutually adjusted |
| Schouten LJ et al, 2003, Netherlands | Netherlands Cohort Study | 1986-1993, 7.3 years follow-up | 62573 postm. women, age 55-69 years: 172 cases | Self-reported | Height | <160 cm  160-164  165-169  170-174  ≥175  per 10 cm increase | 1.00  0.98 (0.57-1.70)  1.01 (0.59-1.71)  1.51 (0.86-2.65)  2.17 (1.14-4.13)  1.42 (1.08-1.87) | Age, ever use of OC, parity, ever use of postmenopausal HRT |
| Rodriguez C et al, 2002, USA | Cancer Prevention Study 2 | 1982-1998, 16 years follow-up | 300537 postm. women, age <40->69 years: 1511 deaths | Self-reported | Height | <152 cm  152-<157  157-<162  162-<167  167-<172  172-<177  ≥177 | 0.72 (0.47-1.10)  1.00  1.12 (0.93-1.34)  1.14 (0.95-1.37)  1.07 (0.89-1.30)  1.28 (1.00-1.63)  1.41 (0.95-2.09) | Age, race, height, exercise, age at menarche, age at menopause, duration of OC use, status and duration of HRT use, number of full-term pregnancies |

FH – OC, family history of ovarian cancer, HRT use, hormone replacement therapy use, OC use, oral contraceptive use, SES, socioeconomic status

Supplementary Table 3. Relative risks from nonlinear dose-response analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BMI | | BMI at age 18-29 years | | Weight | | Weight gain | |
| BMI | RR (95% CI) | BMI | RR (95% CI) | Kg | RR (95% CI) | Kg | RR (95% CI) |
| 15.0 | 1.05 (0.97-1.14) | 15.0 | 1.12 (0.90-1.39) | 48.1 | 1.00 | 0 | 1.00 |
| 17.5 | 1.02 (0.98-1.06) | 17.5 | 1.03 (0.94-1.13) | 50 | 1.01 (0.95-1.08) | 1.0 | 0.96 (0.92-0.99) |
| 20.0 | 1.00 | 20.0 | 1.00 | 55 | 1.05 (0.90-1.23) | 5 | 0.82 (0.66-1.03) |
| 22.5 | 1.00 (0.97-1.02) | 22.5 | 1.02 (0.94-1.10) | 60 | 1.10 (0.90-1.33) | 10 | 0.91 (0.75-1.09) |
| 25.0 | 1.01 (0.97-1.05) | 25.0 | 1.07 (0.94-1.24) | 65 | 1.15 (0.94-1.41) | 15 | 0.94 (0.78-1.13) |
| 27.5 | 1.04 (1.00-1.08) | 27.5 | 1.17 (0.96-1.44) | 70 | 1.21 (0.99-1.47) | 20 | 0.96 (0.79-1.16) |
| 30.0 | 1.09 (1.05-1.13) | 30.0 | 1.32 (1.01-1.73) | 75 | 1.27 (1.05-1.54) | 25 | 0.97 (0.80-1.18) |
| 32.5 | 1.16 (1.13-1.20) | 32.5 | 1.52 (1.08-2.14) | 80 | 1.33 (1.09-1.62) |  |  |
| 35.0 | 1.28 (1.24-1.31) | 35.0 | 1.79 (1.16-2.74) | 85 | 1.39 (1.12-1.72) |  |  |

Supplementary Table 4. Relative risks from nonlinear dose-response analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Waist circumference | | Waist-to-hip ratio | |  | Hip circumference |  | Height |
| Cm | RR (95% CI) | WHR | RR (95% CI) | Cm | RR (95% CI) | Cm | RR (95% CI) |
| 62.7 | 1.00 | 0.679 | 1.00 | 86 | 1.00 | 147 | 0.98 (0.95-1.01) |
| 65.0 | 0.99 (0.92-1.07) | 0.700 | 0.99 (0.92-1.07) | 90 | 0.90 (0.78-1.03) | 150 | 1.00 |
| 70.0 | 0.99 (0.84-1.16) | 0.750 | 0.99 (0.84-1.17) | 95 | 0.84 (0.66-1.08) | 155 | 1.04 (1.00-1.08) |
| 75.0 | 1.00 (0.82-1.22) | 0.800 | 1.00 (0.82-1.23) | 100 | 0.84 (0.62-1.14) | 160 | 1.10 (1.03-1.16) |
| 80.0 | 1.01 (0.82-1.25) | 0.850 | 1.03 (0.83-1.27) | 105 | 0.90 (0.65-1.24) | 165 | 1.17 (1.10-1.26) |
| 85.0 | 1.03 (0.84-1.27) | 0.900 | 1.06 (0.84-1.33) | 110 | 1.00 (0.72-1.41) | 170 | 1.27 (1.19-1.36) |
| 90.0 | 1.06 (0.86-1.30) | 0.950 | 1.09 (0.82-1.45) | 115 | 1.17 (0.79-1.72) | 175 | 1.40 (1.32-1.49) |
| 95.0 | 1.08 (0.87-1.35) | 1.000 | 1.13 (0.78-1.63) | 120 | 1.41 (0.86-2.31) | 180 | 1.56 (1.45-1.68) |
| 100 | 1.11 (0.86-1.44) |  |  |  |  | 185 | 1.76 (1.57-1.98) |

Supplementary Table 5. Summary of results from meta-analyses and pooled analyses of BMI and ovarian cancer compared with present analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Author, year | Number of studies | Number of cases | Comparison | Summary RR |
| Present study, 2014 | 26 prospective studies | 16111 | Per 5 units  30 vs. 20  35 vs. 20 | 1.07 (1.02-1.11)  1.09 (1.05-1.13)  1.28 (1.24-1.31) |
| Olsen, 2007 | 17 case-control and 11 cohort studies | 8270 cases  9550 cases | All studies:  Overweight vs. normal weight  Obesity vs. normal weight  Cohort studies:  Overweight vs. normal weight  Obesity vs. normal weight | 1.16 (1.01-1.32)  1.30 (1.12-1.50)  1.07 (0.92-1.25)  1.12 (0.95-1.32) |
| Schouten, 2008 | 12 cohort studies | 2036 cases | 30 vs. 18.5-23 | 1.03 (0.86-1.22) |
| Renehan, 2008 | 13 cohort studies | 12208 cases | Per 5 units | 1.03 (0.99-1.08) |
| Collaborative Group on Epidemiological Studies of Ovarian Cancer, 2012 | 47 studies  17 population-based case-control studies  13 hospital-based case-control studies  17 prospective studies | 25157 cases  8971 cases  5328 cases  10643 cases | Per 5 units  Per 5 units  Per 5 units  Per 5 units | Not available  1.10 (1.06-1.14)  0.86 (0.82-0.90)  1.03 (1.00-1.06) |

Supplementary Figure 1. Funnel plot for BMI and ovarian cancer



Supplementary Figure 2. Funnel plot of height and ovarian cancer

