Table 2.19 Case-control studies on cancer of the ovary and coffee drinking (web only)


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| Reference, location enrolment/follow-up period, study design | Population size, description, exposure assessment method | Organ site | Exposure category or level | Exposed cases/deaths | Risk estimate (95\% CI) | Covariates controlled | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kuper et al. (2000) <br> USA <br> 1992-1997 <br> Case-control | Cases: <br> 549; Population-based. <br> Controls: <br> 516; None <br> Exposure assessment method: <br> Questionnaire | Ovary | All coffee (cups/day) <br> Never <br> $<1$ <br> 1 <br> 2-3 <br> $\geq 4$ <br> Trend-test p-value | $y)$ 128 100 90 170 61 0.17 | $\begin{aligned} & 1.35(0.9-2) \\ & 1.13(0.76-1.68) \\ & 1.1(0.78-1.54) \\ & 1.88(1.14-3.09) \end{aligned}$ | Age, centre, parity, body mass index, OC, family history of breast/ovarian/prostate cancer, tubal alligation, education, alcohol consumption, smoking, marital status | Paper focused on coffee, alcohol and tobacco; direct association only in premenopausal women; no heterogeneity among histological subtypes; similar results for coffee and caffeine. <br> Strengths: population-based; cases identified by medical records and cancer registries; FFQ tested for validity/reproducibility, although no validity specific for coffee intake; intervieweradministered FFQ; adjusted for major confounders, although not all. <br> Limitations: no information on: exclusion of previous cancer among cases and controls and no exclusion of oophorectomized women from controls; no age distribution reported; no separate information for caffeinated/decaffeinated coffee |
| Tavani et al. (2001) <br> Italy <br> 1992-1999 <br> Case-control | Cases: <br> 1031; hospital-based. <br> Controls: <br> 2411; None <br> Exposure assessment method: <br> Questionnaire | Ovary | All coffee (cups/d $\begin{aligned} & <1 \\ & 1-<2 \\ & 2-<3 \\ & 3-<4 \\ & \geq 4 \end{aligned}$ <br> Trend-test p-value | 188 <br> 244 <br> 282 <br> 162 <br> 155 <br> 0.251 | $\begin{aligned} & 1 \\ & 1.12(0.85-1.48) \\ & 1.13(0.86-1.47) \\ & 0.86(0.64-1.16) \\ & 0.93(0.69-1.27) \end{aligned}$ | Age, study centre, year of interview, education, parity, age at menopause, OC, body mass index, total energy intake, family history of ovarian/breast cancer | Paper focused on coffee and alcohol; no association for coffee, cappuccino and slight inverse association for the caffeinated coffee (based on low numbers); no heterogeneity in strata of age, education, parity, OC, body mass index, energy intake, family history. <br> Strengths: very large study; exclusion of previous cancer among cases and controls and of oophorectomized women from controls; FFQ tested for validity/reproducibility; interviewer-administered FFQ; fully adjusted; separate information for caffeinated/decaffeinated coffee and cappuccino. <br> Limitations: hospital controls |

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\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Reference, location enrolment/follow-up period, study design \& Population size, description, exposure assessment method \& Organ site \& Exposure category or level \& Exposed cases/deaths \& Risk estimate
(95\% CI) \& Covariates controlled \& Comments \\
\hline Goodman et al. (2003) \& \begin{tabular}{l}
Cases: \\
164; Population-based
\end{tabular} \& \multirow[t]{9}{*}{Ovary

Ovary} \& \multicolumn{2}{|l|}{All coffee (cups/day)} \& \& \multirow[t]{9}{*}{| Age, race, OC, tubal alligation |
| :--- |
| Age, race, OC, tubal |} \& \multirow[t]{5}{*}{Paper focused on coffee and caffeine; direct association for regular coffee and caffeine and no association with decaffeinated coffee; direct association only in the variant $\mathrm{A} / \mathrm{A}$ of the CYP1A2 polymorphism in a subsample in women with intake above median of cruciferous vegetables, women with mucinous and OC; no significant similar increased risk in pre and post-menopausal women.} \\

\hline Hawaii \& Controls: \& \& No drinkers \& 32 \& 1 \& \& \\
\hline 1993-1999 \& 194; None \& \& \& \& \& \& \\
\hline \multirow[t]{6}{*}{Case-control} \& \multirow[t]{6}{*}{Exposure assessment method: Questionnaire} \& \& $<1$
$\geq 1$ \& 68
64 \& $1.3(0.7-2.5)$
$1.5(0.8-2.7)$ \& \& \\
\hline \& \& \& Trend-test p-valu \& \& \& \& \\
\hline \& \& \& Caffeinated (regu \& \& \& \& Strengths: population controls, participation rates reported; interviewer-administered FFQ \\
\hline \& \& \& No drinkers \& 50 \& 1 \& \& for most participants; fully adjusted; separate information for coffee/decaffeinated \\
\hline \& \& \& $<1$ \& 62 \& 1.8 (1-3) \& \& coffee/caffeine and in strata of selected covariates. \\
\hline \& \& \& $\geq 1$
Trend-test p-valu \& 52
0.07 \& 1.7 (1-3.1) \& \& Limitations: no mention on time between diagnosis and interview; no information: on exclusion of previous cancer among cases and controls, on no exclusion of oophorectomized women from controls, on FFQ validity/reproducibility and other characteristics \\

\hline \multirow[t]{9}{*}{| Jordan et al. (2004) |
| :--- |
| Australia |
| 1990-1993 |
| Case-control |} \& \multirow[t]{9}{*}{| Cases: |
| :--- |
| 696; Population-based Controls: 786; None Exposure assessment method: Questionnaire |} \& \multirow[t]{9}{*}{Ovary} \& \multirow[t]{9}{*}{All coffee (cups/d

No drinkers
$<1$
1
$2-3$
$\geq 4$

Trend-test p-value} \& \& \& \multirow[t]{9}{*}{Age, body mass index, OC, parity, smoking, alcohol consumption, education, energy intake} \& \multirow[t]{9}{*}{| Paper focused on coffee, caffeine and tea; mainly instant coffee; inverse association for coffee and caffeine; inverse association in all invasive tumours, invasive serous and endometrioid tumours; no association in all borderline tumours and invasive mucinous; inverse association only in postmenopausal women and in OC never users; no heterogeneity in strata of smoking, alcohol, body mass index, parity; no different association in women with stage I or advanced disease. |
| :--- |
| Strengths: population controls; participation |} \\

\hline \& \& \& \& \& \& \& \\
\hline \& \& \& \& 127 \& 1 \& \& \\
\hline \& \& \& \& 127 \& \& \& \\
\hline \& \& \& \& 176 \& 0.98 (0.69-1.39) \& \& \\
\hline \& \& \& \& 107 \& 0.88 (0.59-1.3) \& \& \\
\hline \& \& \& \& 200 \& 0.9 (0.64-1.28) \& \& \\
\hline \& \& \& \& 86 \& 0.62 (0.41-0.95) \& \& \\
\hline \& \& \& \& 0.05 \& \& \& \\
\hline
\end{tabular}

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| Reference, location enrolment/follow-up period, study design | Population size, description, exposure assessment method | Organ site | Exposure category or level | Exposed cases/deaths | Risk estimate (95\% CI) | Covariates controlled | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Trend-test p-value: $0.6 \quad$| administered FFQ; no clear information on |
| :--- |
| participation rate; no information: on exclusion |
| of previous cancer among cases and controls | of previous cancer among cases and controls and no exclusion of oophorectomized women from controls; on FFQ validity/reproducibility, major confounders adjusted for

| Hirose et al. (2007) <br> Japan | Cases: | Ovary | All coffee (cups/day) |  |
| :--- | :--- | :--- | :--- | :--- |
| 166; Hospital-based |  | No drinkers | 35 | 1 |
| Case-control | Controls: | $<1$ | 42 | $1.25(0.75-2.09)$ |
|  | 3224; None <br> Exposure assessment <br> method: <br> Questionnaire | $1-2$ | 66 | $0.83(0.51-1.37)$ |
|  |  | $\geq 3$ | 20 | $1.33(0.68-2.6)$ |

Age, year of interview,
motivation of consultation related cancer (hospital-based Epidemiological parity, age at first birth, smoking, alcohol consumption, physical activity, body mass index, various dietary items related cancer (hospital-based Epidemiologi
Research Program et Aichi Cancer Center, HERPACC); population with a low prevalence of coffee drinking (33\%); the FFQ was selfadministered and then checked by an interviewer; caffeine no related with ovarian cancer.
Strengths: cases identified through medical records and cancer registries; self-administered FFQ checked by an interviewer
Limitations: hospital controls (although no difference in lifestyle with a sample of general population); no information: on participation rates, on exclusion of previous cancer among cases and controls, on no exclusion of oophorectomized women from controls, on FFQ validity/reproducibility and other characteristics; no adjustment for menstrual factors and exogenous hormones; no separate information for coffee/decaffeinated coffee

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| Reference, location enrolment/follow-up period, study design | Population size, description, exposure assessment method | Organ site | Exposure category or level | Exposed cases/deaths | Risk estimate (95\% CI) | Covariates controlled | Comments |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gosvig et al. (2015) <br> Denmark <br> 1995-1999 <br> Case-control | Cases: <br> 382; Population-based; $30 \%$ of the cases (115) were borderline tumours. <br> Controls: <br> 911; None <br> Exposure assessment method: <br> Questionnaire | Ovary <br> Ovary (others): Borderline ovarian cancer | All coffee (cups/d <br> 0 $>0-<1$ <br> 1-3 <br> $\geq 4$ <br> Increment of 1 cup/day <br> Trend-test p-value <br> All coffee (cups/d <br> 0 <br> $>0-<1$ <br> 1-3 <br> $\geq 4$ <br> Increment of 1 cup/day <br> Trend-test p-value | 27 <br> 25 <br> 106 <br> 109 <br> 381 <br> 0.001 <br> y) <br> 10 <br> 18 <br> 42 <br> 45 <br> 115 | $\begin{aligned} & 1.13(0.59-2.15) \\ & 1.17(0.7-1.94) \\ & 0.88(0.53-1.45) \\ & 0.9(0.84-0.97) \\ & 1 \\ & 1.7(0.72-3.99) \\ & 1.16(0.55-2.45) \\ & 0.86(0.41-1.81) \\ & 0.92(0.83-1.01) \end{aligned}$ | Age, parity, OC <br> Age, parity, OC | Papers focused on coffee, tea and caffeine; cases include invasive and borderline tumours; most Danish women drinks caffeinated filtered coffee; similar no or weak inverse association (sometimes statistically significant) for all cases (all stages) and for histological subtypes (serous/ mucinous/endometrioid/other) or for total tumours and borderline tumours; results for caffeine were similar overall and in subgroups. <br> Strengths: cases identified by cancer registries; population controls; exclusion of oophorectomized women from controls; fully adjusted. <br> Limitations: self-administered FFQ within a larger questionnaire on other variables; no separate information for caffeinated/decaffeinated coffee; no information: on exclusion of previous cancer among cases and controls; on FFQ validity/reproducibility |

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[^0]:    FFQ, food frequency questionnaire; CI, confidence interval; NR, not reported; OC, oral contraceptive; OR, odds ratio

