

SUPPLEMENTARY FILES

Exposure to persistent organic pollutants and thyroid cancer risk: a study protocol of systematic review and meta-analysis

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Supplementary File 1. Detailed Electronic Search strategy.**• PubMed:**

#1. "persistent organic pollutants"[MeSH Terms] OR "ddt"[MeSH Terms] OR "chlordan"[MeSH Terms] OR "aldrin"[MeSH Terms] OR "dielddrin"[MeSH Terms] OR "endrin"[MeSH Terms] OR "heptachlor"[MeSH Terms] OR "hexachlorobenzene"[MeSH Terms] OR "mirex"[MeSH Terms] OR "toxaphene"[MeSH Terms] OR "chlordecone"[MeSH Terms] OR "polychlorinated biphenyls"[MeSH Terms] OR "halogenated diphenyl ethers"[MeSH Terms] OR "dibenzofurans, polychlorinated"[MeSH Terms] OR "dioxins"[MeSH Terms] OR "dioxins and dioxin like compounds"[MeSH Terms] OR "polychlorinated dibenzodioxins"[MeSH Terms]

#2. "pentachlorobenzene"[Supplementary Concept] OR "decabromobiphenyl ether"[Supplementary Concept] OR "2 2 4 4 5 6 hexabromodiphenyl ether"[Supplementary Concept] OR "perfluorooctane sulfonic acid"[Supplementary Concept] OR "perfluorooctanoic acid"[Supplementary Concept]

#3. "persistent organic pollutants"[Title/Abstract] OR "persistent organic pollutant"[Title/Abstract] OR "POPs"[Title/Abstract] OR "organochlorine pesticides"[Title/Abstract] OR "OCPs"[Title/Abstract] OR "ddt"[Title/Abstract] OR "chlordan"[Title/Abstract] OR "aldrin"[Title/Abstract] OR "dielddrin"[Title/Abstract] OR "endrin"[Title/Abstract] OR "heptachlor"[Title/Abstract] OR "hexachlorobenzene"[Title/Abstract] OR "mirex"[Title/Abstract] OR "toxaphene"[Title/Abstract] OR "chlordecone"[Title/Abstract] OR "pentachlorobenzene"[Title/Abstract] OR "polychlorinated biphenyls"[Title/Abstract] OR "PCBs"[Title/Abstract] OR "polychlorinated naphthalenes"[Title/Abstract] OR "halogenated diphenyl ethers"[Title/Abstract] OR "polybrominated diphenyl ethers"[Title/Abstract] OR "PBDEs"[Title/Abstract] OR "c-decaBDE"[Title/Abstract] OR "dibenzofurans polychlorinated"[Title/Abstract] OR "dioxins"[Title/Abstract] OR "dioxins and dioxin like compounds"[Title/Abstract] OR "polychlorinated dibenzodioxins"[Title/Abstract] OR "decabromobiphenyl ether"[Title/Abstract] OR "2 2 4 4 5 6 hexabromodiphenyl ether"[Title/Abstract] OR "perfluorooctane sulfonic acid"[Title/Abstract] OR "perfluorooctanoic acid"[Title/Abstract] OR "PFOS"[Title/Abstract] OR "PFOA"[Title/Abstract]

#4. #1 OR #2 OR #3

#5. "thyroid neoplasms"[MeSH Terms]

#6. "thyroid neoplasm"[All Fields] OR "thyroid carcinomas"[All Fields] OR "thyroid carcinoma"[All Fields] OR "thyroid cancers"[All Fields] OR "thyroid cancer"[All Fields] OR "thyroid adenomas"[All Fields] OR "thyroid adenoma"[All Fields] OR "thyroid tumours"[All Fields] OR "thyroid tumour"[All Fields]

#7. #5 OR #6

#8. #4 AND #7

• Embase:

#1. 'persistent organic pollutants':ti,ab,kw OR 'persistent organic pollutant':ti,ab,kw OR POPs:ti,ab,kw OR 'organochlorine pesticides':ti,ab,kw OR OCPs:ti,ab,kw OR DDT:ti,ab,kw OR chlordan:ti,ab,kw OR aldrin:ti,ab,kw OR dieldrin:ti,ab,kw OR endrin:ti,ab,kw OR heptachlor:ti,ab,kw OR hexachlorobenzene:ti,ab,kw OR mirex:ti,ab,kw OR toxaphene:ti,ab,kw OR chlordecone:ti,ab,kw OR 'pentachlorobenzene':ti,ab,kw OR 'polychlorinated biphenyls':ti,ab,kw OR PCBs:ti,ab,kw OR 'polychlorinated naphthalenes':ti,ab,kw OR 'halogenated diphenyl ethers':ti,ab,kw OR 'polybrominated diphenyl ethers':ti,ab,kw OR PBDEs:ti,ab,kw OR c-decaBDE:ti,ab,kw OR 'dibenzofurans polychlorinated':ti,ab,kw OR dioxins:ti,ab,kw OR 'dioxins and dioxin like compounds':ti,ab,kw OR 'polychlorinated dibenzodioxins':ti,ab,kw OR 'decabromobiphenyl ether':ti,ab,kw OR '2 2 4 4 5 6 hexabromodiphenyl ether':ti,ab,kw OR 'perfluorooctane sulfonic acid':ti,ab,kw OR 'perfluorooctanoic acid':ti,ab,kw OR PFOS:ti,ab,kw OR PFOA:ti,ab,kw

#2. 'thyroid neoplasms':ti,ab,kw OR 'thyroid neoplasm':ti,ab,kw OR 'thyroid carcinomas':ti,ab,kw OR 'thyroid carcinoma':ti,ab,kw OR 'thyroid cancers':ti,ab,kw OR 'thyroid cancer':ti,ab,kw OR 'thyroid adenomas':ti,ab,kw OR 'thyroid adenoma':ti,ab,kw OR 'thyroid tumours':ti,ab,kw OR 'thyroid tumour':ti,ab,kw

#3. #1 AND #2

• ProQuest:

#1. mesh(persistent organic pollutants) OR mesh(DDT) OR mesh(chlordan) OR mesh(aldrin) OR mesh(dieldrin) OR mesh(endrin) OR mesh(heptachlor) OR mesh(hexachlorobenzene) OR mesh(mirex) OR mesh(toxaphene) OR mesh(chlordecone) OR mesh(polychlorinated biphenyls) OR mesh(halogenated diphenyl ethers) OR mesh(dibenzofurans, polychlorinated) OR mesh(dioxins) OR mesh(dioxins and dioxin like compounds) OR mesh(polychlorinated dibenzodioxins) OR mesh(pentachlorobenzene) OR mesh(decabromobiphenyl ether) OR mesh(2 2 4 4 5 6 hexabromodiphenyl ether) OR mesh(perfluorooctane sulfonic acid) OR mesh(perfluorooctanoic acid)

#2. ab(persistent organic pollutants) OR ab(persistent organic pollutant) OR ab(POPs) OR ab(organochlorine pesticides) OR ab(OCPs) OR ab(DDT) OR ab(chlordan) OR ab(aldrin) OR ab(dieldrin) OR ab(endrin) OR ab(heptachlor) OR ab(hexachlorobenzene) OR ab(mirex) OR ab(toxaphene) OR ab(chlordecone) OR ab(pentachlorobenzene) OR ab(polychlorinated biphenyls) OR ab(PCBs) OR ab(polychlorinated naphthalenes) OR ab(halogenated diphenyl ethers) OR ab(polybrominated diphenyl ethers) OR ab(PBDEs) OR ab(c-decaBDE) OR ab(dibenzofurans polychlorinated) OR ab(dioxins) OR ab(dioxins and dioxin like compounds) OR ab(polychlorinated dibenzodioxins) OR ab(decabromobiphenyl ether) OR ab(2 2 4 4 5 6 hexabromodiphenyl ether) OR ab(perfluorooctane sulfonic acid) OR ab(perfluorooctanoic acid) OR ab(PFOS) OR ab(PFOA)

#3. #1 OR #2

#4. mesh(thyroid neoplasms)

#5. ab(thyroid neoplasm) OR ab(thyroid carcinomas) OR ab(thyroid carcinoma) OR ab(thyroid cancers) OR ab(thyroid cancer) OR ab(thyroid adenomas) OR ab(thyroid adenoma) OR ab(thyroid tumours) OR ab(thyroid tumour)

#6. #4 OR #5

#7. #3 AND #6

• **CNKI:**

#1. SU=持久性有机污染物 OR SU=POPs OR SU=有机氯杀虫剂 OR SU=DDT OR SU=氯丹 OR SU=艾氏剂 OR SU=狄氏剂 OR SU=异狄氏剂 OR SU=七氯 OR SU=六氯苯 OR SU=灭蚁灵 OR SU=毒杀芬 OR SU=十氯酮 OR SU=五氯苯 OR SU=多氯联苯 OR SU=PCBs OR SU=多氯化萘 OR SU=卤代苯醚 OR SU=多溴联苯醚 OR SU=PBDEs OR SU=呋喃 OR SU=二恶英 OR SU=多氯二苯并二恶英 OR SU=十溴二苯醚 OR SU=六溴二苯醚 OR SU=全氟辛烷磺酸 OR SU=全氟辛酸 OR SU=persistent organic pollutants OR SU=organochlorine pesticides OR SU=polychlorinated biphenyls OR SU=halogenated diphenyl ethers OR SU=polybrominated diphenyl ethers

#2. KY=持久性有机污染物 OR KY=POPs OR KY=有机氯杀虫剂 OR KY=DDT OR KY=氯丹 OR KY=艾氏剂 OR KY=狄氏剂 OR KY=异狄氏剂 OR KY=七氯 OR KY=六氯苯 OR KY=灭蚁灵 OR KY=毒杀芬 OR KY=十氯酮 OR KY=五氯苯 OR KY=多氯联苯 OR KY=PCBs OR KY=多氯化萘 OR KY=卤代苯醚 OR KY=多溴联苯醚 OR KY=PBDEs OR KY=呋喃 OR KY=二恶英 OR KY=多氯二苯并二恶英 OR KY=十溴二苯醚 OR KY=六溴二苯醚 OR KY=全氟辛烷磺酸 OR KY=全氟辛酸 OR KY=persistent organic pollutants OR KY=organochlorine pesticides OR KY=polychlorinated biphenyls OR KY=halogenated diphenyl ethers OR KY=polybrominated diphenyl ethers

#3. #1 OR #2

#4. SU=甲状腺癌 OR SU=甲状腺肿瘤 OR SU=thyroid cancer OR SU=thyroid neoplasms

#5. KY=甲状腺癌 OR KY=甲状腺肿瘤 OR KY= thyroid cancer OR KY= thyroid neoplasms

#6. #4 OR #5

#7. #3 AND #6

Supplementary File 2. Main Characteristics extracted from individual studies included in this study.

Study	Study characteristics				Population characteristics				Exposure characteristics			Outcomes characteristics				Quality score (NOS)
	First author, Publication year	Study design	Study implementation period (year),	Sample collection time (year),	Mean/median duration of follow-up (months), only for cohort	Country or region	Sample size	Age Median (range)/Mean age (SD), years	Gender Female /Male	Type of POPs	Detection method	Comparator	Outcomes	Analysis models	Effect estimates	
Study 1																
Study 2																
Study 3																
Study 4																
Study 5																
Study 6																
...																

Supplementary File 3. Detailed quality scores of individual studies assessed with the Newcastle-Ottawa Quality Assessment Scale (NOS).

Study	Selection				Comparability		Exposure			Total Score
	Is the case definition adequate?	Representativeness of the cases	Selection of controls	Definition of controls	Study controls for the most important factor	Study controls for any additional factor	Ascertainment of exposure	Same method of ascertainment for cases and controls	Non-response rate	
Study 1	√	√	-	-	-	√	√	√	√	6
Study 2	√	√	√		√	√	√	√	√	8
Study 3	√	√	√	√	√	√	√	√	√	9
Study 4	√	√	√	√	-	-	√	√	√	7
Study 5	√	√	√	√	√	-	√	√	√	8
Study 6	√	-	√	√	-	-	√	-	-	4
...										