**Supplementary Table S1.** The MeSH terms and keywords for literature search.

|  |
| --- |
| **Pancreatic Cancer** |
| "Pancreatic Cancer" OR "Pancreatic Tumor" OR "Pancreatic Tumors "OR "Pancreatic Neoplasm" OR "Pancreatic Neoplasms" OR "Pancreatic Neoplasia" OR "Pancreatic Neoplasias" OR "Pancreatic Cancers" OR "Pancreatic Malignant Neoplasm" OR "Pancreatic Malignant Neoplasms" OR "Pancreatic Malignancy" OR "Pancreatic Malignancies" OR "Pancreas Tumor" OR "Pancreas Tumors" OR "Pancreas Neoplasm" OR "Pancreas Neoplasms" OR "Pancreas Neoplasia" OR "Pancreas Neoplasias" OR "Pancreas Cancer" OR "Pancreas Cancers" OR "Pancreas Malignant Neoplasm" OR "Pancreas Malignant Neoplasms" OR "Pancreas Malignancy" OR "Pancreas Malignancies" OR "Cancer of the Pancreas" OR "Cancer of Pancreas" OR "Tumor" OR "Neoplasm" OR "Tumors" OR "Neoplasia" OR "Neoplasias" OR "Cancer" OR "Cancers" OR "Malignant Neoplasm" OR "Malignancy" OR "Malignancies" OR "Malignant Neoplasms" |
| **Circulating 25-hydroxyvitamin D** |
| "vitamin D" OR "vitamin D2" OR "vitamin D3" OR "25-hydroxyvitamin D" OR "1,25-dihydroxyvitamin D" OR "25-hydroxyvitamin D3 1-alpha-hydroxylase" OR "cholecalciferol" OR "calcifediol OR calcitriol" OR "hydroxycholecalciferol" OR "ergocalciferol" OR "ergocalciferols" OR "vitamins" OR "vitamine" OR "vitamin" |

**Supplementary Table S2.** Meta-regression analysis of the association between circulating 25(OH)D and pancreatic cancer incidence.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Coefficient** | **Standard error** | *P* value | **95% CI** |
| Geographic region | 0.6269006 | 0.1619135 | ***< 0.001*** | (0.3095560, 0.9442453) |
| Sex | 0.1705246 | 0.1304290 | 0.191 | (-0.0851115, 0.4261608) |
| Age | 0.2742038 | 0.3783396 | 0.469 | (-0.4673283, 1.0157360) |
| Number of cases | 0.1117274 | 0.4357865 | 0.798 | (-0.7423984, 0.9658532) |

***NOTE*:** Italic and boldface indicates statistical significance. 25(OH)D: 25-hydroxyvitamin D, CI: confidence interval.

**Supplementary Table S3.** Meta-regression analysis of the association between circulating 25(OH)D and pancreatic cancer mortality.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Coefficient** | **Standard error** | ***P* value** | **95% CI** |
| Geographic region | -0.1758323 | 0.1428601 | 0.218 | (-0.4558330, 0.1041684) |
| Sex | 0.0467756 | 0.0894225 | 0.601 | （-0.1284892,0.2220404） |
| Age | 0.0472434 | 0.1791482 | 0.792 | (-0.3038805, 0.3983673) |
| Number of cases | -0.0472434 | 0.1791482 | 0.792 | (-0.3983673, 0.3038805) |

25(OH)D: 25-hydroxyvitamin D, CI: confidence interval.