**SUPPLEMENTARY MATERIAL**

**Appendix 1** List of Search Terms used for Identification of Studies

The following are the list of healthcare databases with the search terms used:

*PubMed*

“Oestrogen Therapy” AND “Alzheimer’s Disease”

*Science Direct*

“Oestrogen Therapy” AND “Alzheimer’s”

*Scopus*

“Oestrogen Therapy” AND “Alzheimer’s Disease”

*BMJ*

“Oestrogen Therapy” AND “Alzheimer’s”

*Embase (EBSCO)*

“Oestrogen Therapy” OR “Estrogen Therapy” AND “Alzheimer’s”

“Hormone Replacement Therapy” AND “Alzheimer's”

*Medline (OVID)*

“Oestrogen Therapy” OR “Estrogen Therapy” AND “Alzheimer’s”

“Hormone Replacement Therapy” AND “Alzheimer's”

*Web of science*

“Oestrogen Therapy” AND “Alzheimer’s”

*CINAHL (EBSCO)*

“Oestrogen Therapy” OR “Estrogen Therapy” AND “Alzheimer’s”

“Hormone Replacement Therapy” AND “Alzheimer's”

*PsycINFO (OVID)*

“Oestrogen Therapy” OR “Estrogen Therapy” AND “Alzheimer’s”

“Hormone Replacement Therapy” AND “Alzheimer's”

*The Cochrane Central Register of Controlled Trials*

“Oestrogen Therapy” AND “Alzheimer’s”

**Table 4** GRADE Assessment for Randomised Controlled Trials

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Outcomes** | **Number of Participants (Studies)** | **Overall Quality of Evidence** | **Relative Effect (95% CI)** | **Anticipated Absolute Effects** | |
| **Risk With ERT** | **Risk Without ERT** |
| Probable Dementia | 12,053 (3) [12,13,23] | ⊕⊕⊕◯  MODERATE1 | 1.82 (1.33 - 2.49)2 | 18 per 1000 | 8 fewer per 1000 |
| Amyloid-β Deposition (PiB SUVR) | 118 (1) [7] | ⊕⊕◯◯  LOW3 | N/A4 | N/A4 | N/A4 |

1 The studies did not have any information on allocation concealment except in one

2 Calculated with the exclusion of one study due to lack of data

3 The study had high attrition, small sample size and no information on allocation concealment

4 Data not available

**Table 5** Newcastle-Ottawa Scale for Cohort and Case-Control Studies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Study** | **Selection (maximum 4)** | **Comparability (maximum 2)** | **Outcome (maximum 3)** | **Total (maximum 9)** | **Evaluation\*** |
| Yoo et al. 2020 (cohort) [10] | ★★★★ | ★ | ★★★ | 8 | Good |
| Tang et al. 1996 (cohort) 17] | ★★ | ★★ | ★★★ | 6 | Fair |
| Zandi et al. 2002 (cohort) [8] | ★★★ | ★★ | ★★ | 7 | Good |
| Baldereschi et al. 1998 (cohort) [31] | ★★★ | ★★ | ★ | 6 | Fair |
| Kawas et al. 1997 (cohort) [24] | ★★★ | ★★ | ★★★ | 8 | Good |
| Paganini-Hill et al. 1994 (cohort) [11] | ★★★ | ★ | ★★★ | 7 | Good |
| Lord et al. 2008 (cohort) [19] | ★ | ★★ | ★★★ | 6 | Fair |
| Mortel et al. 1995 (cohort) [32] | ★★★ | ★ | ★ | 5 | Fair |
| Imtiaz et al. 2017 (cohort) [25] | ★★ | ★★ | ★★★ | 7 | Good |
| Slooter et al. 1999 (case-control) [18] | ★★★ | ★★ | ★ | 6 | Fair |
| Henderson et al. 2005 (case-control) [9] | ★★★★ | ★★ | ★★ | 8 | Good |
| Waring et al. 1999 (case-control) [28] | ★★★ | ★ | ★★ | 6 | Fair |
| Paganini-Hill et al. 1996 (case-control) [26] | ★★★★ | ★ | ★★★ | 8 | Good |
| Roberts et al. 2006 (case-control) [27] | ★★★ | ★★ | ★★★ | 8 | Good |
| Seshadri et al. 2001 (case-control) [16] | ★★★ |  | ★★★ | 6 | Fair |
| Kim et al. 2020 (case-control) [21] | ★★★ | ★ | ★★★ | 7 | Good |
| Henderson et al. 1994 (case-control) [22] | ★★★ | ★★ | ★★ | 7 | Good |
| Pourhadi et al. 2021 (case-control) [15] | ★★★ | ★★ | ★★ | 7 | Good |
| Imtiaz et al. 2017 (case-control) [14] | ★★★ | ★ | ★★★ | 7 | Good |
| Brenner et al. 1994 (case-control) [20] | ★★★ | ★★ | ★★★ | 8 | Good |

\* Score of 1-3 is poor, 4-6 is fair and 7-9 is good according to Agency for Healthcare Research and Quality (AHRQ) standards