SUPPLEMENTARY MATERIAL

Supplementary Appendix S1: PRISMA Checklist.

<table>
<thead>
<tr>
<th>Section/topic</th>
<th>#</th>
<th>Checklist item</th>
<th>Reported on page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>1</td>
<td>Identify the report as a systematic review, meta-analysis, or both.</td>
<td>1</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured summary</td>
<td>2</td>
<td>Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.</td>
<td>3</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationale</td>
<td>3</td>
<td>Describe the rationale for the review in the context of what is already known.</td>
<td>4</td>
</tr>
<tr>
<td>Objectives</td>
<td>4</td>
<td>Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).</td>
<td>4</td>
</tr>
<tr>
<td>METHODS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protocol and registration</td>
<td>5</td>
<td>Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.</td>
<td>11</td>
</tr>
<tr>
<td>Eligibility criteria</td>
<td>6</td>
<td>Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.</td>
<td>11</td>
</tr>
<tr>
<td>Information sources</td>
<td>7</td>
<td>Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.</td>
<td>11,12</td>
</tr>
<tr>
<td>Search</td>
<td>8</td>
<td>Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.</td>
<td>Appendix S1</td>
</tr>
<tr>
<td>Study selection</td>
<td>9</td>
<td>State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).</td>
<td>12, 13</td>
</tr>
<tr>
<td>----------------------</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Data collection process</td>
<td>10</td>
<td>Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.</td>
<td>13</td>
</tr>
<tr>
<td>Data items</td>
<td>11</td>
<td>List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.</td>
<td>13</td>
</tr>
<tr>
<td>Risk of bias in individual studies</td>
<td>12</td>
<td>Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.</td>
<td>13</td>
</tr>
<tr>
<td>Summary measures</td>
<td>13</td>
<td>State the principal summary measures (e.g., risk ratio, difference in means).</td>
<td>13, 14</td>
</tr>
<tr>
<td>Synthesis of results</td>
<td>14</td>
<td>Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.</td>
<td>13, 14</td>
</tr>
</tbody>
</table>

**Supplementary Appendix S2: Search strategy:** MEDLINE (Ovid)

1. exp Psoriasis/
2. psorias$.tw.
3. psorias$.mp.
5. Palmoplantar$ Pustulosis.mp.
7. 1 or 2 or 3 or 4 or 5 or 6
8. exp Biological Therapy/
9. biotherap$.tw.
11. exp Infliximab/
12. (Infliximab or Remicade or Renflexis).tw.
13. exp Etanercept/
14. (etanercept or Erelzi or Enbrel).tw.
15. exp Adalimumab/
16. (adalimumab or Cyltezo or Amjevita or Amgevita or Humira).tw.
17. exp Ustekinumab/
18. (ustekinumab or Stelara).tw.
19. secukinumab.mp.
20. (secukinumab or Cosentyx).tw.
21. ixekizumab.mp.
22. (ixekizumab or Taltz).tw.
23. brodalumab.mp.
24. (brodalumab or Siliq).tw.
25. Guselkumab.mp.
26. (Guselkumab or Tremfya).tw.
27. Tildrakizumab.mp.
28. (Tildrakizumab or Ilumya).tw.
29. Risankizumab.mp.
30. (Risankizumab or skyrizi).tw.
31. 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30
32. 7 and 31
33. Adult/
34. Young Adult/
35. adult?.tw.
36. 33 or 34 or 35
37. 32 and 36
38. Randomized Controlled Trials as Topic/
39. Randomized Controlled Trial/
40. Random Allocation/
41. Double-Blind Method/
42. Single-Blind Method/
43. Clinical Trial/
44. clinical trial, phase i.pt.
45. clinical trial, phase ii.pt.
46. clinical trial, phase iii.pt.
47. clinical trial, phase iv.pt.
48. controlled clinical trial.pt.
49. randomized controlled trial.pt.
50. multicenter study.pt.
51. clinical trial.pt.
52. exp Clinical Trials as Topic/
53. (clinical adj trial$).tw.
54. ((singl$ or doubl$ or treb$ or tripl$) adj (blind$3 or mask$3)).tw.
55. Placebos/
56. placebo$.tw.
57. randomly allocated.tw.
58. (allocated adj2 random$).tw.
59. or/38-58
60. 37 and 59
61. exp Animals/
62. exp Humans/
63. 61 not 62
64. 60 not 63

**Embase (Elsevier)**

#62 #57 NOT #60 AND [embase]/lim 793
#61 #57 NOT #60 809
#60 #58 NOT #59 5,443,657
#59 'human'/exp 21,993,373
#39 'randomized controlled trial'/de 604,341
#38 'controlled clinical trial'/de 430,113
#37 'clinical trial'/de 983,678
#36 #31 AND #35 2,000
#35 #32 OR #33 OR #34 1,867,490
#34 adult$:ab,ti 1,582,166
#33 'young adult'/de 343,634
#32 'adulthood'/de 34,876
#31 #6 AND #30 22,431
#30 #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 1,769,596
#29 risankizumab:ab,ti OR skyrizi:ab,ti 153
#28 'risankizumab'/exp 339
#27 tildrakizumab:ab,ti OR ilumya:ab,ti 224
#26 'tildrakizumab'/exp 425
#25 guselkumab:ab,ti OR tremfya:ab,ti 346
#24 'guselkumab'/exp 651
#23 brodalumab:ab,ti OR siliq:ab,ti 422
#22 'brodalumab'/exp 1,002
#21 ixekizumab:ab,ti OR taltz:ab,ti 928
#20 'ixekizumab'/exp 1,639
#19 secukinumab:ab,ti OR cosentyx:ab,ti 2,167
#18 'secukinumab'/exp 3,405
#17 ustekinumab:ab,ti OR stelara:ab,ti 3,881
#16 'ustekinumab'/exp 6,772
#15 adalimumab:ab,ti OR cyltezo:ab,ti OR amjevita:ab,ti OR amgevita:ab,ti OR humira:ab,ti 17,661
#14 'adalimumab'/exp 32,787
#13 etanercept:ab,ti OR erelzi:ab,ti OR enbrel:ab,ti 14,394
#12 'etanercept'/exp 30,862
#11 infliximab:ab,ti OR remicade:ab,ti OR renflexis:ab,ti 25,574
#10 'infliximab'/exp 49,809
#9 (biologic$ NEAR/2 therap*):ab,ti 10,349
#8 biotherap*:ab,ti 4,919
#7 'biological therapy'/exp 1,701,686
#6 #1 OR #2 OR #3 OR #4 OR #5 97,086
#5 'pustular psoriasis of palms and soles':kw,ab,ti 3
#4 'palmoplantar* pustulosis':kw,ab,ti 731
#3 'pustulosis palmaris et plantaris':kw 31
#2 psorias*:ab,ti,kw 63,789
CENTRAL (Cochrane)

#1 'psoriasis'/exp 90,797

#1 MeSH descriptor: [Psoriasis] explode all trees 3246

#2 (psorias*):ti,ab,kw 7573

#3 ("Pustulosis Palmaris et Plantaris"):ti,ab,kw 5

#4 (Palmoplantar* Pustulosis):ti,ab,kw 122

#5 ("Pustular Psoriasis of Palms and Soles"):ti,ab,kw 3

#6 {OR #1-#5} 7861

#7 MeSH descriptor: [Biological Therapy] explode all trees 17163

#8 (biotherap*):ti,ab,kw 180

#9 ((biologic* NEAR/2 therap*)):ti,ab,kw 1639

#10 MeSH descriptor: [Infliximab] explode all trees 716

#11 (Infliximab or Remicade or Renflexis):ti,ab,kw 2269

#12 MeSH descriptor: [Etanercept] explode all trees 749

#13 (etanercept or Erelzi or Enbrel):ti,ab,kw 2176

#14 MeSH descriptor: [Adalimumab] explode all trees 729

#15 (adalimumab or Cyltezo or Amjevita or Amgevita or Humira):ti,ab,kw 2947

#16 MeSH descriptor: [Ustekinumab] explode all trees 176
#17 (ustekinumab or Stelara):ti,ab,kw 743
#18 (secukinumab or Cosentyx):ti,ab,kw 776
#19 (ixekizumab or Taltz):ti,ab,kw 403
#20 (brodalumab or Siliq):ti,ab,kw 138
#21 (Guselkumab or Tremfya):ti,ab,kw 181
#22 (Tildrakizumab or Ilumya):ti,ab,kw 113
#23 (Risankizumab or skyrizi):ti,ab,kw 96
#24 {OR #7-#23} 26284
#25 #6 AND #24 2383
#26 MeSH descriptor: [Adult] explode all trees 20596
#27 MeSH descriptor: [Young Adult] explode all trees 4689
#28 (adult?):ti,ab,kw 626290
#29 {OR #26-#28} 629679
#30 #25 AND #29 in Trials 1313