# **Supplementary Table 1. List of included studies without IPD and reasons**

|  |  |
| --- | --- |
| List of included studies without IPD | Reasons |
| Aygen 2007; Badawy 2009; Badawy 2011; Fleming 2002; Keikha 2011; Khorram 2006; Mobusher 2014; Santonocito 2009; Tang 2006\*; Zain 2009 | Data loss (n = 10) |
| Moussa 2016 | Legal reasons (n = 1) |
| Abuelghar 2013; Atay 2006; Ayaz 2013; Banerjee Ray 2012; Basirat 2012; Boostanfar 2001; Chen 2016; Dasari 2009; Dehbashi 2009; Hossein-Rashidi 2016; Jahan 2015; Karimzadeh 2007; Karimzadeh 2010; Lopez 2004; Lorzadeh 2011; Maged 2015; Robinson 2003; Roy 2012; Selim 2012; Seyedoshohadaei 2012; Sharief 2015; Sheikh-El-Arab Elsedeek 2011; Zeinalzadeh 2010 | No response (n = 23) |
| Beigi 2006; Boudhraa 2010; Cudmore 1966; El-Biely 2001; Garcia 1985; Johnson 1966 | IPD not sought due to insufficient contact information (n = 6) |
| Fatima 2018; Topçu 2017 | IPD not sought as studies were identified after the data requesting timeline (n = 2) |

\*Note: Although IPD of baseline and other outcomes in this study were provided, IPD of outcomes of interest for this IPD meta-analysis were not available.

## Supplementary Table 2. Sensitivity analyses for live birth

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Comparison | Sensitivity analyses | Number of RCTs | Number of participants | Risk Ratio (RR) | 95% confidence interval (CI) | I2 |
| Letrozole vs CC | RCTs with low risk of bias at allocation concealment | 2 | 909 | 1.42 | 1.14-1.76 | 0 |
| Treatment naïve women with PCOS | 3 | 627 | 1.41 | 1.11-1.79 | 0 |
| CC+metformin vs CC | RCTs with low risk of bias at allocation concealment | 3 | 714 | 1.02 | 0.76-1.37 | 33.2% |
| Treatment naïve women with PCOS | 5 | 662 | 1.06 | 0.83-1.34 | 3.9% |

**Supplementary Table 3. IPD availability bias**

This table shows the results of network meta-analyses of RCTs with IPD and network meta-analyses of all eligible RCTs on live birth and clinical pregnancy. The results are presented in the comparisons of different interventions versus CC for live birth and clinical pregnancy, respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| Comparison  (vs. CC) | Network meta-analyses of RCTs with and without IPD  RR (95% CI) | Network meta-analyses of RCTs with IPD  RR (95% CI) | Network meta-analyses of RCTs without IPD  RR (95% CI) |
| Live birth | 27 RCTs  5257 women | 12 RCTs  3437 women | 15 RCTs  1820 women |
| Placebo | 0.58 (0.31-1.07) | 0.56 (0.26-1.20) | NA |
| Metformin | 0.90 (0.64-1.28) | 0.87 (0.51-1.47) | 0.95 (0.57-1.58) |
| CC + Metformin | 1.27 (0.91-1.78) | 1.18 (0.73-1.90) | 1.70 (0.88-3.30) |
| Letrozole | 1.46 (1.09-1.95) | 1.42 (0.79-2.55) | 1.47 (1.07-2.02) |
| Tamoxifen | 1.16 (0.61-2.18) | NA | 1.12 (0.65-1.94) |
| Gonadotrophins | 1.31 (0.73-2.34) | 1.22 (0.45-3.34) | 1.45 (0.65-3.22) |
| Clinical pregnancy | 62 RCTs  9356 women | 20 RCTs  3962 women | 42 RCTs  5394 women |
| Placebo | 0.49 (0.33-0.71) | 0.61 (0.37-1.01) | 0.30 (0.16-0.57) |
| Metformin | 1.06 (0.83-1.34) | 0.94 (0.67-1.34) | 1.13 (0.80-1.59) |
| CC + Metformin | 1.46 (1.21-1.76) | 1.34 (1.02-1.76) | 1.62 (1.23-2.13) |
| Letrozole | 1.37 (1.16-1.61) | 1.48 (1.07-2.05) | 1.30 (1.08-1.58) |
| Tamoxifen | 0.91 (0.66-1.25) | 0.72 (0.26-1.95) | 0.91 (0.65-1.26) |
| Gonadotrophins | 1.34 (0.87-2.08) | 1.22 (0.64-2.31) | 1.57 (0.81-3.06) |

## **Supplementary Table 4.** List of investigators of the primary RCTs

|  |  |
| --- | --- |
| Primary RCTs | Investigators |
| CLET trial (Amer 2017) | S.A. Amer, J. Smith, A. Mahran, and P. Fox, A. Fakis |
| Bayar 2006 | Ülkü Bayar, Mustafa Basaran, Sibel Kiran, Ayhan Coskun and Sener Gezer |
| COFFI trial (Homburg 2012) | R. Homburg, M.L. Hendriks, T.E. König, R.A. Anderson, A.H. Balen, M. Brincat, T. Child, M. Davies, T. D'Hooghe, A. Martinez, M. Rajkhowa, R. Rueda-Saenz, P. Hompes and C.B. Lambalk |
| PCOSMIC trial\* (Johnson 2010) | N.P. Johnson, A.W. Stewart, J. Falkiner, C.M. Farquhar, S. Milsom, V.-P. Singh, Q.L. Okonkwo, K.L. Buckingham, REACT-NZ (REproductionAnd Collaborative Trials in New Zealand) |
| Kar 2012 | Sujata Kar |
| Kar 2015 | Sujata Kar and Smriti Sanchita |
| Leanza 2014 | V Leanza, L Coco, F Grasso, G Leanza, G Zarbo, and M Palumbo. |
| PPCOS I trial (Legro 2007) | Richard S. Legro, Huiman X. Barnhart, William D. Schlaff, Bruce R. Carr, Michael P. Diamond, Sandra A. Carson, Michael P. Steinkampf, Christos Coutifaris, Peter G. McGovern, Nicholas A. Cataldo, Gabriella G. Gosman, John E. Nestler, Linda C. Giudice, Phyllis C. Leppert, and Evan R. Myers, for the Cooperative Multicenter Reproductive Medicine Network |
| PPCOS II trial (Legro 2014) | Richard S. Legro, Robert G. Brzyski, Michael P. Diamond, Christos Coutifaris, William D. Schlaff, Peter Casson, Gregory M. Christman, Hao Huang, Qingshang Yan, Ruben Alvero, Daniel J. Haisenleder, Kurt T. Barnhart, G. Wright Bates, Rebecca Usadi, Scott Lucidi, Valerie Baker, J.C. Trussell, Stephen A. Krawetz, Peter Snyder, Dana Ohl, Nanette Santoro, Esther Eisenberg, and Heping Zhang, for the NICHD Reproductive Medicine Network |
| Liu 2017 | Chang Liu, Guimei Feng, Wei Huang, Qiuyi Wang, Shiyuan Yang, Jing Tan, Jing Fu and Dong Liu |
| Lord 2006 | J Lord, R Thomas, B Fox, U Acharya and T Wilkin |
| Moll 2006 | Etelka Moll, Patrick M MBossuyt, Johanna C Korevaar, Cornelis B Lambalk, and Fulco van der Veen, |
| Morin-Papunen 2012 | Laure Morin-Papunen, Anni S. Rantala, Leila Unkila-Kallio, AilaTiitinen, MarittaHippeläinen, Antti Perheentupa, Helena Tinkanen, RistoBloigu, Katri Puukka, AimoRuokonen and Juha S. Tapanainen |
| Nazik 2012 | Hakan Nazik and YakupKumtepe |
| Palomba 2005 | Stefano Palomba, Francesco Orio, Jr., Angela Falbo, Francesco Manguso, Tiziana Russo, Teresa Cascella, Achille Tolino, Enrico Carmina, Annamaria Colao and Fulvio Zullo |
| Sahin 2004 | Yılmaz Şahin, Ünal Yirmibeş, Fahrettin Keleştimur and Ercan Aygen |
| Vegetti 1999 | W. Vegetti, A. Riccaboni, M. Columbo, E. Baroni, D. Diaferia, G. Ragni and P.G. Crosignani. |
| Williams 2009 | C. D. Williams, L. M. Pastore, W. B.Shelly, A. P.Bailey, D. C.Baras and B. G.Bateman, |
| PCOSAct trial (Wu 2017) | Xiao-Ke Wu, ElisabetStener-Victorin, Hong-Ying Kuang, Hong-Li Ma, Jing-Shu Gao, Liang-Zhen Xie, Li-Hui Hou, Zhen-Xing Hu, Xiao-Guang Shao, Jun Ge, Jin-Feng Zhang, Hui-Ying Xue, Xiao-Feng Xu, Rui-Ning Liang, Hong-Xia Ma, Hong-Wei Yang, Wei-Li Li, Dong-Mei Huang, Yun Sun, Cui-Fang Hao, Shao-Min Du, Zheng-Wang Yang, Xin Wang, Ying Yan, Xiu-Hua Chen, Ping Fu, Cai-Fei Ding, Ya-Qin Gao, Zhong-Ming Zhou, Chi Chiu Wang, Tai-Xiang Wu, Jian-Ping Liu, Ernest H. Y. Ng, Richard S. Legro and Heping Zhang, for the PCOSAct Study Group |

\*Note: This publication included two studies, both of which were included.

## Supplementary Table 5. Eunice Kennedy Shriver National Institutes of Child Health and Human Development, Reproductive Medicine Network

|  |  |  |
| --- | --- | --- |
| Names | Affiliations | Support by NIH Grants |
| Richard S. Legro, M.D. | Pennsylvania State University College of Medicine, Hershey, PA | U10 HD27049,  U10 HD38992,  U10 HD055925, U10 HD39005,  U10 HD38998,  U10 HD055936, U10 HD055942, U10 HD055944, U54 HD29834,  UL1 TR000127, U01 HD38997,  U10 HD27011,  U10 HD33172,  U10 HD38988,  U10 HD38999, MO1RR00056,  MO11RR10732,  C06 RR016-499 |
| Robert G. Brzyski, M.D., Ph.D. | University of Texas Health Science Center at San Antonio, San Antonio |
| Michael P. Diamond, M.D. | Georgia Regents University, Augusta; Wayne State Univeristy, Detroit |
| Christos Coutifaris, M.D., Ph.D. | University of Pennsylvania School of Medicine, Philadelphia |
| William D. Schlaff, M.D. | University of Colorado, Aurora |
| Peter Casson, M.D. | University of Vermont, Burlington |
| Gregory M. Christman, M.D. | University of Michigan, Ann Arbor |
| Hao Huang, M.D., M.P.H. | Yale University School of Public Health, New Haven, CT |
| Qingshang Yan, Ph.D. | Yale University School of Public Health, New Haven, CT |
| Ruben Alvero, M.D. | University of Colorado, Aurora |
| Daniel J. Haisenleder, Ph.D. | Ligand Core Lab, Univ of Virginia Center for Research in Reproduction, Charlottesville |
| Kurt T. Barnhart, M.D. | University of Pennsylvania School of Medicine, Philadelphia |
| G. Wright Bates, M.D. | University of Alabama at Birmingham, Birmingham |
| Rebecca Usadi, M.D. | Carolinas Medical Center, Charlotte, NC |
| Scott Lucidi, M.D. | Virginia Commonwealth University, Richmond |
| Valerie Baker, M.D. | Stanford University Medical Center, Stanford, CA |
| J.C. Trussell, M.D. | State University of New York Upstate Medical University, Onondaga |
| Stephen A. Krawetz, Ph.D. | Wayne State Univeristy, Detroit |
| Peter Snyder, M.D. | University of Pennsylvania School of Medicine, Philadelphia |
| Dana Ohl, M.D. | University of Michigan, Ann Arbor |
| Nanette Santoro, M.D. | University of Colorado, Aurora |
| Huiman X. Barnhart, Ph.D. | Duke University Medical Center, Durham, NC |
| Bruce R. Carr, M.D. | University of Texas Southwestern Medical Center, Dallas |
| Michael P. Diamond, M.D. | Wayne State Univeristy, Detroit |
| Sandra A. Carson, M.D. | Baylor College of Medicine, Houston |
| Michael P. Steinkampf, M.D. | University of Alabama, Birmingham |
| Peter G. McGovern, M.D. | University of Medicine and Dentistry of New Jersey, Newark |
| Nicholas A. Cataldo, M.D. | Stanford University, Stanford, CA |
| Gabriella G. Gosman, M.D. | University of Pittsburgh, Pittsburgh |
| John E. Nestler, M.D. | Virginia Commonwealth University School of Medicine, Richmond |
| Linda C. Giudice, M.D., Ph.D. | University of California at San Francisco, San Francisco |
| Phyllis C. Leppert, M.D., Ph.D. | National Institute of Child Health and Human Development, Bethesda, MD |
| Evan R. Myers, M.D., M.P.H. | Duke University Medical Center, Durham |
| Esther Eisenberg, M.D., M.P.H. | Fertility and Infertility Branch, Eunice Kennedy Shriver National Institute of Child Health and Human Development, Rockville, MD |
| Heping Zhang, Ph.D. | Yale University School of Public Health, New Haven, CT |