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# Supplementary Figure 1 – PRISMA IPD Flow Diagram

**PRISMA IPD Flow Diagram**

Articles identified from Databases \*:

PubMed (n = 1843)

EMBASE (n = 7299)

PsycInfo (n = 1047)

Number of additional studies identified through other sources including contact with researchers (n = 1 )

Identification

Number of studies after duplicates removed

N = 7694

Reports excluded at full text level:

Inappropriate study type (n = 46)

Incorrect patient population (n = 3)

No usable data (n = 193)

Data not accessible (n = 19)

Number of studies screened for eligibility

N = 270

Number of studies for which IPD were sought

N =10

Number of eligible Studies for which IPD were not sought

N = 6 (Publication date greater than 20 years ago)  
Reasons for not seeking IPD should be reported

Number of studies for which IPD were provided n = 9

Number of participants for whom data were provided

N =294

Number participants for whom no data were provided N = 0

Number of studies for which IPD were not provided N =1 (no response from authors)

Number of participants n - 131

Reasons for not providing IPD should be stated

**IPD (report for each main outcome)**

Number of studies included in analysis n = 9

Number of participants included in analysis n = 294

Number participants excluded (give reasons) n = 0

Participants for whom no data were provided (n= )

The PRISMA IPD flow diagram

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Available data

Obtaining data

Eligibility

Screening

Analysed data

# Supplementary Figure 2 – Non-parametric ROC Curves for clozapine dose and concentration-dose ratio

Non-parametric ROC curves for A. Clozapine dose and response, and B. clozapine concentration-dose ratio and response. Area under the curve (AUC) for both analyses was less robust than for clozapine level alone, where dose AUC 0.44 (95% C.I. 0.35 – 0.56), ratio AUC 0.56 (95% C.I. 0.44 – 0.68) and level alone AUC 0.61 (95% 0.54 – 0.68). Note that for clozapine dose, there was no meaningful Youden Index identified.



# Supplementary Table 1 – PubMed Search Terms

|  |  |
| --- | --- |
| Area | PubMed Search Terms |
| Clozapine | clozapin\* OR clozaril OR zaponex OR denzapin\* OR clopine OR norclozapine OR Desmethylclozapine |
| AND | |
| Levels | level OR levels OR concentration OR concentrations OR ratio OR ratios |
| AND | |
| Blood | blood OR serum OR plasma |

# Supplementary Table 2: Modified Newcastle-Ottawa Scoring Guide

|  |  |  |
| --- | --- | --- |
| Domain | Score | Criteria |
| (**1) Representativeness of the sample** | 1 | Participants on clozapine are similar to the broader population of people on clozapine in terms of age, sex, age of onset of psychotic illness, treatment refractory illness, medication adherence |
| 0 | Participants on clozapine are not similar to the broader population of people on clozapine in terms of age, sex, age of onset of psychotic illness, treatment refractory illness, medication adherence |
| **(2) Sample size:** | 1 | Total sample size of included cohort was greater than 50 participants |
| 0 | Total sample size of included cohort was less than 50 participants |
| **(3) Clarity of Definition of Response** | 1 | Studies provided clear definition of response, as defined as a change in BPRS or PANSS of at least 20% between clozapine commencement and endpoint |
| 0 | Studies did not provide a clear definition of response, as defined as a change in BPRS or PANSS of at least 20% between clozapine commencement and endpoint |
| **(4) Ascertainment of CLZ plasma levels** | 1 | Clozapine plasma levels used in analysis drawn in steady-state under clozapine doses reported as stable |
| 0 | Clozapine plasma levels not drawn in steady-state conditions |
| **(5) Quality of reporting** | 1 | Reported descriptive statistics to describe the population including age and sex of individual participants. |
| 0 | Descriptive statistics were not reported or were incomplete |

# Supplementary Table 3: Risk of Bias of Included Studies

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Author/year | 1. Representativeness of the sample | 2. Sample size | 3. Clarity of definition of response | 4. Ascertainment of CLZ plasma levels | 5. Quality of descriptive statistics reporting | Total |
| Chong, 1997 | 0 | 0 | 1 | 1 | 1 | 3 |
| Hasegawa, 1993 | 1 | 1 | 1 | 1 | 1 | 5 |
| Hussein, 1999 | 1 | 0 | 1 | 1 | 1 | 4 |
| Kronig 1995 | 1 | 0 | 1 | 1 | 1 | 4 |
| Perry, 1991 | 1 | 0 | 1 | 1 | 1 | 4 |
| Pickar, 1992 | 1 | 0 | 1 | 1 | 1 | 4 |
| Potkin 1994 | 1 | 1 | 1 | 1 | 1 | 5 |
| Siskind, 2021 | 1 | 0 | 1 | 1 | 1 | 4 |
| Spina, 2000 | 1 | 0 | 1 | 1 | 1 | 4 |

# Supplementary Table 4: Included Studies

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author (year) | Country | Setting | Data Collection | Diagnosis | Diagnostic tool | Number of participants (total (male)) meeting criteria in response / non-response group\* | Mean age (SD) in response / non-response groups\* | Illness duration in years (SD) in response / non-response group\* | Study duration | Antipsychotic co-medications | Non-response criteria | Participants. met treatment resistance classification\*\* | Clozapine titration method |
| Chong, 1997 | Singapore | Inpatient | Prospective | Schizophrenia | DSM-III-R | 8 (3) / 6 (1) | 31.6 (4.3) / 34.5 (4.7) | 15.4 (4.8) | 12 weeks | None | >20% reduction in BPRS score and either a CGI-severity score ≤3 or BPRS score ≤35) | Yes | To clinical response vs side effects |
| Hasegawa, 1993 | US | Inpatient and outpatient | Prospective | Schizophrenia | DSM-III-R | 30 / 29 | 33.4 (10.2) / 36.4 (11.0) | Not stated | 24 weeks | None | >20% reduction in BPRS score | Yes | Initial dose 25mg, increased by 25 – 50mg every few days to median dose of 400mg, with clinical adjustment thereafter if necessary |
| Hussein, 1999 | Saudi Arabia | Unknown | Prospective | Schizophrenia | Not stated | 11 (8) / 15 (1) | 33.0 (6.3) / 34.1 (11.1) | Not stated | 2-41 months | None | >20% reduction in PANSS score | Yes | Twice daily dosing in 21 patients, single daily dose in 5 patients |
| Kronig, 1995 | US | Inpatient | Prospective | Schizophrenia or schizoaffective disorder | DSM-III | 15 / 22 | 27.9 (6.2) | 8.7 (5.7) | 6 weeks | None | >20% reduction in total BPRS score and either a CGI-severity score ≤3 or BPRS-A score ≤35) | Yes | Titrated as tolerated, with target dose of 500mg/day at day 14 |
| Perry, 1991 | US | Inpatient | Prospective | Schizophrenia | DSM-III-R | 11 (8) / 18 (12) | 34.2 (7.5) / 32.6 (8.1) | 13.6 (5.9) / 13.3 (6.4) | 4 weeks | None | >20% reduction in BPRS and a BPRS score ≤34) | Yes | Titrated as tolerated to clinical effect |
| Pickar, 1992 | US | Inpatient | Prospective | Schizophrenia or schizoaffective disorder | DSM-III-R | 8 (5) / 13 (8) | 31.8 (6.8) / 28.0 (5.4) | 10.8 (8.1) / 11.7 (5.4) | 15 weeks | None | >20% reduction in total BPRS score | Yes | Starting dose 25mg, increased by 25 – 50mg / day for 14 days, with clinical adjustment thereafter if necessary |
| Potkin, 1994 | US | Inpatient | Prospective | Schizophrenia | DSM-III-R | 15 / 35 | Not stated | Not stated | 12 weeks | None | >20% reduction in total BPRS score and either a CGI-severity score ≤3 or BPRS-A score ≤35) | Yes | Standardised titration to 400mg/day over 16 days, then randomly assigned to either 400mg/day or 800mg/day doses. Higher dose group was slowly up-titrated |
| Siskind, 2021 | Australia | Inpatient and outpatient | Prospective | Schizophrenia or schizoaffective disorder | DSM-V | 3 (2) / 9 (8) | 30.0 (12.1) / 35.9 (12.9) | Not stated | 24 weeks | Cross taper from prior antipsychotic | >20% reduction in BPRS score | Yes | Standardised titration for 14days, with clinical adjustment thereafter if necessary |
| Spina, 2000 | Italy | Inpatient and outpatient | Prospective | Schizophrenia | DSM-IV | 18 (15) / 27 (20) | 37.7 (8.8) / 38.4 (11.5) | Not stated | 12 weeks | None | >20% reduction in BPRS score and a BPRS score ≤35) | Yes | Starting dose of 25mg / day, increased by 25 – 50mg / day until median dose of 300mg / day, with clinical adjustment thereafter if necessary |

CCMD = Chinese Classification of Mental Disorders the second edition of the diagnostic criteria for schizophrenia

\* Data for entire cohort provided where disaggregated data not available

\*\* TRS criteria adapted from Kane et al 1988: two 6 week trials of different antipsychotics with a chlorpromazine equivalent >600 mg/day

# Supplementary Table 5: PRISMA-IPD Checklist

|  |  |  |  |
| --- | --- | --- | --- |
| **PRISMA-IPD**  **Section/topic** | **Item No** | **Checklist item** | **Reported on page** |
| **Title** | | | |
| Title | 1 | Identify the report as a systematic review and meta-analysis of individual participant data. | 1 |
| **Abstract** | | | |
| Structured summary | 2 | Provide a structured summary including as applicable: | 2 |
| **Background**: state research question and main objectives, with information on participants, interventions, comparators and outcomes. |
| **Methods**: report eligibility criteria; data sources including dates of last bibliographic search or elicitation, noting that IPD were sought; methods of assessing risk of bias. |
| **Results**: provide number and type of studies and participants identified and number (%) obtained; summary effect estimates for main outcomes (benefits and harms) with confidence intervals and measures of statistical heterogeneity. Describe the direction and size of summary effects in terms meaningful to those who would put findings into practice. |
| **Discussion:** state main strengths and limitations of the evidence, general interpretation of the results and any important implications. |
| **Other:** report primary funding source, registration number and registry name for the systematic review and IPD meta-analysis. |
| **Introduction** | | | |
| Rationale | 3 | Describe the rationale for the review in the context of what is already known. | 5 |
| Objectives | 4 | Provide an explicit statement of the questions being addressed with reference, as applicable, to participants, interventions, comparisons, outcomes and study design (PICOS). Include any hypotheses that relate to particular types of participant-level subgroups. | 5 |
| **Methods** | | | |
| Protocol and registration | 5 | Indicate if a protocol exists and where it can be accessed. If available, provide registration information including registration number and registry name. Provide publication details, if applicable. | 6 |
| Eligibility criteria | 6 | Specify inclusion and exclusion criteria including those relating to participants, interventions, comparisons, outcomes, study design and characteristics (e.g. years when conducted, required minimum follow-up). Note whether these were applied at the study or individual level i.e. whether eligible participants were included (and ineligible participants excluded) from a study that included a wider population than specified by the review inclusion criteria. The rationale for criteria should be stated. | 6 |
| Identifying studies - information sources | 7 | Describe all methods of identifying published and unpublished studies including, as applicable: which bibliographic databases were searched with dates of coverage; details of any hand searching including of conference proceedings; use of study registers and agency or company databases; contact with the original research team and experts in the field; open adverts and surveys. Give the date of last search or elicitation. | 6 |
| Identifying studies - search | 8 | Present the full electronic search strategy for at least one database, including any limits used, such that it could be repeated. | 6 |
| Study selection processes | 9 | State the process for determining which studies were eligible for inclusion. | 7 |
| Data collection processes | 10 | Describe how IPD were requested, collected and managed, including any processes for querying and confirming data with investigators. If IPD were not sought from any eligible study, the reason for this should be stated (for each such study). | 6 |
| If applicable, describe how any studies for which IPD were not available were dealt with. This should include whether, how and what aggregate data were sought or extracted from study reports and publications (such as extracting data independently in duplicate) and any processes for obtaining and confirming these data with investigators. |
| Data items | 11 | Describe how the information and variables to be collected were chosen. List and define all study level and participant level data that were sought, including baseline and follow-up information. If applicable, describe methods of standardising or translating variables within the IPD datasets to ensure common scales or measurements across studies. | 7 |
| IPD integrity | A1 | Describe what aspects of IPD were subject to data checking (such as sequence generation, data consistency and completeness, baseline imbalance) and how this was done. | 7 |
| Risk of bias assessment in individual studies. | 12 | Describe methods used to assess risk of bias in the individual studies and whether this was applied separately for each outcome. If applicable, describe how findings of IPD checking were used to inform the assessment. Report if and how risk of bias assessment was used in any data synthesis. | 7 |
| Specification of outcomes and effect measures | 13 | State all treatment comparisons of interests. State all outcomes addressed and define them in detail. State whether they were pre-specified for the review and, if applicable, whether they were primary/main or secondary/additional outcomes. Give the principal measures of effect (such as risk ratio, hazard ratio, difference in means) used for each outcome. | 7 |
| Synthesis methods | 14 | Describe the meta-analysis methods used to synthesise IPD. Specify any statistical methods and models used. Issues should include (but are not restricted to):   * Use of a one-stage or two-stage approach. * How effect estimates were generated separately within each study and combined across studies (where applicable). * Specification of one-stage models (where applicable) including how clustering of patients within studies was accounted for. * Use of fixed or random effects models and any other model assumptions, such as proportional hazards. * How (summary) survival curves were generated (where applicable). * Methods for quantifying statistical heterogeneity (such as I2 and τ2). * How studies providing IPD and not providing IPD were analysed together (where applicable). * How missing data within the IPD were dealt with (where applicable). | 7 & 8 |
| Exploration of variation in effects | A2 | If applicable, describe any methods used to explore variation in effects by study or participant level characteristics (such as estimation of interactions between effect and covariates). State all participant-level characteristics that were analysed as potential effect modifiers, and whether these were pre-specified. |  |
| Risk of bias across studies | 15 | Specify any assessment of risk of bias relating to the accumulated body of evidence, including any pertaining to not obtaining IPD for particular studies, outcomes or other variables. | NA |
| Additional analyses | 16 | Describe methods of any additional analyses, including sensitivity analyses. State which of these were pre-specified. | 8 |
| **Results** | | | |
| Study selection and IPD obtained | 17 | Give numbers of studies screened, assessed for eligibility, and included in the systematic review with reasons for exclusions at each stage. Indicate the number of studies and participants for which IPD were sought and for which IPD were obtained. For those studies where IPD were not available, give the numbers of studies and participants for which aggregate data were available. Report reasons for non-availability of IPD. Include a flow diagram. | 9 |
| Study characteristics | 18 | For each study, present information on key study and participant characteristics (such as description of interventions, numbers of participants, demographic data, unavailability of outcomes, funding source, and if applicable duration of follow-up). Provide (main) citations for each study. Where applicable, also report similar study characteristics for any studies not providing IPD. | 9 |
| IPD integrity | A3 | Report any important issues identified in checking IPD or state that there were none. | none |
| Risk of bias within studies | 19 | Present data on risk of bias assessments. If applicable, describe whether data checking led to the up-weighting or down-weighting of these assessments. Consider how any potential bias impacts on the robustness of meta-analysis conclusions. | 10 |
| Results of individual studies | 20 | For each comparison and for each main outcome (benefit or harm), for each individual study report the number of eligible participants for which data were obtained and show simple summary data for each intervention group (including, where applicable, the number of events), effect estimates and confidence intervals. These may be tabulated or included on a forest plot. | 10 |
| Results of syntheses | 21 | Present summary effects for each meta-analysis undertaken, including confidence intervals and measures of statistical heterogeneity. State whether the analysis was pre-specified, and report the numbers of studies and participants and, where applicable, the number of events on which it is based. | 10 & 11 |
| When exploring variation in effects due to patient or study characteristics, present summary interaction estimates for each characteristic examined, including confidence intervals and measures of statistical heterogeneity. State whether the analysis was pre-specified. State whether any interaction is consistent across trials. |
| Provide a description of the direction and size of effect in terms meaningful to those who would put findings into practice. |
| Risk of bias across studies | 22 | Present results of any assessment of risk of bias relating to the accumulated body of evidence, including any pertaining to the availability and representativeness of available studies, outcomes or other variables. | 12 |
| Additional analyses | 23 | Give results of any additional analyses (e.g. sensitivity analyses). If applicable, this should also include any analyses that incorporate aggregate data for studies that do not have IPD. If applicable, summarise the main meta-analysis results following the inclusion or exclusion of studies for which IPD were not available. | 11 |
| **Discussion** | | | |
| Summary of evidence | 24 | Summarise the main findings, including the strength of evidence for each main outcome. | 13 |
| Strengths and limitations | 25 | Discuss any important strengths and limitations of the evidence including the benefits of access to IPD and any limitations arising from IPD that were not available. | 14 |
| Conclusions | 26 | Provide a general interpretation of the findings in the context of other evidence. | 13 |
| Implications | A4 | Consider relevance to key groups (such as policy makers, service providers and service users). Consider implications for future research. | 15 |
| **Funding** | | | |
| Funding | 27 | Describe sources of funding and other support (such as supply of IPD), and the role in the systematic review of those providing such support. | 4 |

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# Supplementary Table 6 – Demographics by Response

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **No Response (N=169)** | **Response (N=125)** | **Total (N=294)** | **p value** |
| **Length of trial (weeks)** |  |  |  | 0.326 |
| Mean (SD) | 10.0 (8.0) | 11.0 (8.4) | 10.4 (8.2) |  |
| Range | 4.0 - 24.0 | 4.0 - 24.0 | 4.0 - 24.0 |  |
| **Clozapine level (ng/mL)** |  |  |  | **< 0.001** |
| Mean (SD) | 376.3 (259.2) | 496.1 (331.8) | 427.3 (297.7) |  |
| Range | 37.2 - 2167.3 | 35.7 - 1925.9 | 35.7 - 2167.3 |  |
| **Age (years)** |  |  |  | 0.97 |
| Number where data present | 113 | 86 | 199 |  |
| Mean (SD) | 32.7 (10.4) | 32.6 (7.1) | 32.6 (9.1) |  |
| Range | 19.0 - 61.0 | 21.0 - 48.0 | 19.0 - 61.0 |  |
| **Sex** |  |  |  | 0.161 |
| Number where data present | 113 | 86 | 199 |  |
| Male | 42 (75.0%) | 24 (61.5%) | 66 (69.5%) |  |
| Female | 14 (25.0%) | 15 (38.5%) | 29 (30.5%) |  |
| **Clozapine dose (mg)** |  |  |  | 0.153 |
| Number where data present | 113 | 86 | 199 |  |
| Mean (SD) | 440.9 (175. 5) | 393.8 (130.9) | 421.38 (159. 7) |  |
| Range | 100.0 - 900.0 | 110.0 - 800.0 | 100.0 - 900.0 |  |
| **Clozapine concentration-dose ratio** |  |  |  | 0.138 |
| Number where data present | 113 | 86 | 199 |  |
| Mean (SD) | 1.08 (0.69) | 1.36 (1.12) | 1.19 (0.90) |  |
| Range | 0.16 - 2.85 | 0.26 - 5.54 | 0.16 - 5.54 |  |

# Supplementary Table 7: Sensitivity Analyses

Mixed modelling of response prediction was performed before non-parametric ROC analysis. No mixed model explored demonstrated superior response prediction to the base model of clozapine level only; AUC=Area Under the Curve, C.I. = Confidence Interval.

|  |  |
| --- | --- |
| Model | AUC (95% C.I.) |
| Base (clozapine level only) | 0.612 (0.54 – 0.68) |
| Base + sex | 0.567 (0.44 – 0.68) |
| Base + age | 0.511 (0.39 – 0.63) |
| Base + length of trial | 0.612 (0.55 – 0.68) |
| Base + sex + age | 0.567 (0.44 – 0.68) |
| Base + sex + age + length of trial | 0.584 (0.46 – 0.70) |

# Supplementary Table 8: Table of Excluded Studies

|  |  |
| --- | --- |
| **Reference** | **Reason for Exclusion** |
| (Ackenheil et al., 1976) | No usable data |
| (Adejumo et al., 2021) | Inappropriate study type |
| (Adler et al., 2002) | No usable data |
| (Aissa et al., 2022) | No usable data |
| (Akamine et al., 2017) | No usable data |
| (Albers and Ozdemir, 2004) | No usable data |
| (Alderman, 2004) | Inappropriate study type |
| (Ally and Ally, 2015) | Inappropriate study type |
| (Ambasta et al., 2015) | No usable data |
| (Ambasta et al., 2015) | Inappropriate study type |
| (Arango, 2019) | No usable data |
| (Asenjo Lobos et al., 2010) | Inappropriate study type |
| (Askari et al., 2017) | No usable data |
| (Askari et al., 2017) | No usable data |
| (Assion et al., 2008) | No usable data |
| (Atmaca et al., 2003) | No usable data |
| (Aviles-Gonzalez et al., 2013) | No usable data |
| (Axelsson, 1998) | Data not accessible |
| (Aymard et al., 1997) | Data not accessible |
| (Aymard et al., 1999) | No usable data |
| (Bablenis et al., 1989) | Inappropriate study type |
| (Baker and White, 2004) | No usable data |
| (Balant-Gorgia et al., 1993) | Inappropriate study type |
| (Baldelli et al., 2020) | No usable data |
| (Baldessarini and Frankenburg, 1994) | No usable data |
| (Barnes et al., 2017) | No usable data |
| (Barnes, 2011) | Inappropriate study type |
| (Bartels, 1992) | No usable data |
| (Baumann, 2008) | Inappropriate study type |
| (Bechelli et al., 1994) | Data not accessible |
| (Bell et al., 1998) | Inappropriate study type |
| (Bennett and Keck, 1996) | No usable data |
| (Bennett et al., 2008) | No usable data |
| (Benvenuti et al., 2012) | Data not accessible |
| (Bhattacharya et al., 2021) | No usable data |
| (Bondolfi et al., 1998) | No usable data |
| (Bookholt and Bogers, 2014) | Inappropriate study type |
| (Bowskill et al., 2012) | No usable data |
| (Braga et al., 2009) | Data not accessible |
| (Brau et al., 1978) | No usable data |
| (Brusov et al., 2010) | No usable data |
| (Buckley et al., 1997) | No usable data |
| (Bustillo et al., 2018) | No usable data |
| (Carceller-Sindreu et al., 2014) | No usable data |
| (Carulli et al., 2016) | No usable data |
| (Carulli et al., 2016) | Inappropriate study type |
| (Castberg et al., 2017) | No usable data |
| (Catalan et al., 2011) | No usable data |
| (Catalan et al., 2012) | No usable data |
| (Centorrino et al., 1994) | No usable data |
| (Ceskova, 1995) | Inappropriate study type |
| (Chang et al., 1997) | Data not accessible |
| (Chang et al., 2008) | No usable data |
| (Chang et al., 2012) | No usable data |
| (Charfi, 2013) | No usable data |
| (Chong and Remington, 1998) | No usable data |
| (Chung and Remington, 2005) | Inappropriate study type |
| (Chung et al., 2019a) | No usable data |
| (Chung et al., 2019b) | No usable data |
| (Citrome and Volavka, 2002) | Inappropriate study type |
| (Costa-Dookhan et al., 2020) | Inappropriate study type |
| (Costa-Dookhan et al., 2021) | No usable data |
| (Couchman et al., 2010) | No usable data |
| (Couchman et al., 2012) | No usable data |
| (Couchman et al., 2015) | No usable data |
| (Dal Santo et al., 2020) | No usable data |
| (de Leon et al., 2020a) | Inappropriate study type |
| (de Leon et al., 2020b) | Inappropriate study type |
| (de Leon et al., 2020c) | Inappropriate study type |
| (de Lorenzo et al., 2009) | No usable data |
| (de Lorenzo et al., 2009) | No usable data |
| (De Luca et al., 2019a) | Data not accessible |
| (De Luca et al., 2019b) | Data not accessible |
| (de Oliveira Marques et al., 2017) | No usable data |
| (de Oliveira Marques et al., 2017) | No usable data |
| (Dervaux and Laqueille, 2007) | No usable data |
| (Dettling et al., 2000) | No usable data |
| (Diaz et al., 2018) | No usable data |
| (Dobrinas et al., 2011) | No usable data |
| (Dumortier et al., 1998) | No usable data |
| (Dziedzicka-Wasylewska et al., 2008) | No usable data |
| (Englisch and Zink, 2008) | Inappropriate study type |
| (Esslinger et al., 2010) | No usable data |
| (Fabrazzo et al., 1996) | No usable data |
| (Fabrazzo et al., 2002) | No usable data |
| (Fleischhaker et al., 1998) | No usable data |
| (Frazier et al., 2003) | No usable data |
| (Gaertner et al., 2001) | No usable data |
| (Gaertner et al., 2001) | No usable data |
| (Golden and Honigfeld, 2008) | No usable data |
| (Goldsmith et al., 2017) | No usable data |
| (Gonzalez-Esquivel et al., 2011) | No usable data |
| (Grabski and Kasparek, 2017) | No usable data |
| (Greenwood-Smith et al., 2003) | Inappropriate study type |
| (Grilli-Tissot and Louza, 2014) | Inappropriate study type |
| (Grillo et al., 2007) | No usable data |
| (Grunder et al., 2006) | No usable data |
| (Grundmann et al., 2014) | Inappropriate study type |
| (Guitton et al., 1998a) | No usable data |
| (Guitton et al., 1998b) | No usable data |
| (Gunduz-Bruce et al., 2013) | No usable data |
| (Hantulik et al., 2015) | No usable data |
| (Haring et al., 1990) | No usable data |
| (Haring et al., 1989a) | No usable data |
| (Haring et al., 1989b) | No usable data |
| (Harjaningsih et al., 2021) | No usable data |
| (Hart et al., 2021) | No usable data |
| (Havaki-Kontaxaki et al., 2006) | No usable data |
| (Hermida et al., 2008) | No usable data |
| (Hoimark et al., 2020) | No usable data |
| (Hotham et al., 2014) | No usable data |
| (Huang et al., 2016) | No usable data |
| (Iglesias Garcia et al., 2017) | No usable data |
| (Ignjatovic Ristic et al., 2018) | No usable data |
| (Jann et al., 1997) | No usable data |
| (Jiang et al., 2013) | No usable data |
| (Jiang et al., 2016) | No usable data |
| (Jin, 2014) | No usable data |
| (Jin, 2014) | No usable data |
| (John and Kecanovic, 2021) | Inappropriate study type |
| (Jonsdottir et al., 2010) | No usable data |
| (Jonsson et al., 2019) | No usable data |
| (Kaladjian et al., 1999) | No usable data |
| (Kalter et al., 2020) | No usable data |
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