

Comparison of Adverse Events in Pregnant Persons receiving COVID-19 and Influenza Vaccines: A Disproportionality Analysis using Combined Data from US VAERS and Eudravigilance spontaneous report databases, Drug Safety Journal

**Authors:**

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**The READUS-PV checklist**

| Section and topic   | Item # | Checklist item                                                                                                                                                                                                               | Location where item is reported                                 |
|---------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Title</b>        |        |                                                                                                                                                                                                                              |                                                                 |
|                     | 1a     | <i>If disproportionality analyses are a prominent component of the published study, the study should be identified as a “disproportionality analysis”. The type of data and name of the database(s) should be specified.</i> | <i>Title</i>                                                    |
|                     | 1b     | <i>Report the name of adverse event(s) and/or drug(s) under study, when applicable.</i>                                                                                                                                      | <i>Title</i>                                                    |
| <b>Introduction</b> |        |                                                                                                                                                                                                                              |                                                                 |
| Background          | 2a     | <i>Describe the drug(s) and its utilization, the nature of the adverse event(s) under study and its frequency, and the existing knowledge on the drug-event combination.</i>                                                 | <i>Introduction; paragraphs: 2<sup>nd</sup>, 3<sup>rd</sup></i> |
|                     | 2b     | <i>Specify the rationale for performing the analysis, e.g., as part of routine pharmacovigilance, to investigate an overall safety profile, or to assess a pre-specified hypothesis.</i>                                     | <i>Introduction; paragraphs: 3<sup>th</sup></i>                 |
|                     | 2c     | <i>Explain why ICSR databases and disproportionality analysis are suitable to fill the knowledge gap.</i>                                                                                                                    | <i>Introduction; paragraphs: 4<sup>th</sup></i>                 |
| Objectives          | 3      | <i>State specific objectives, identifying the adverse event(s), the drug(s), and the reference group, including any pre-specified hypothesis, if applicable.</i>                                                             | <i>Objective</i>                                                |

| Methods                                      |    |                                                                                                                                                                                                                                       |                                                                                                                                              |
|----------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Study design                                 | 4a | <i>Identify the study (i.e., “disproportionality analysis”) and the type of data used (e.g., “individual case safety reports”).</i>                                                                                                   | <i>Table 1</i>                                                                                                                               |
|                                              | 4b | <i>Provide an outline of the entire study design, including primary and sensitivity analyses performed, and other designs such as case-by-case analysis or literature review.</i>                                                     | <i>Methods : study design section + Method/ Disproportionality Analysis section: 3<sup>rd</sup> paragraph</i>                                |
| Data description, access, and pre-processing | 5a | <i>Specify the name of the database(s), the database(s) custodian, and the coverage. Specify the type/number of drugs included within the database and the thesaurus, taxonomies, or ontologies used for coding drugs and events.</i> | <i>Table 1 – Methods: 2<sup>nd</sup>, 5<sup>th</sup> and 6<sup>th</sup> paragraphs (MedDRA)</i>                                              |
|                                              | 5b | <i>Specify the extraction dates and describe and justify all choices used for data pre-processing, including any data transformation or exclusion, if appropriate.</i>                                                                | <i>Methods (Selection of ICSRs related to pregnant women – figure 1 + deduplication process)</i>                                             |
| Variables definition                         | 6a | <i>Describe the study population, including any restriction.</i>                                                                                                                                                                      | <i>Figure 1</i>                                                                                                                              |
|                                              | 6b | <i>Describe the nature and the meaning of key variables assessed in the work.</i>                                                                                                                                                     | <i>Key variables in Disproportionality Analysis, Merging dataset using a CDM and De-duplication along with CDM in supplementary material</i> |
|                                              | 6c | <i>Specify and justify any grouping of drugs or events. For drugs, specify and justify whether active ingredients/trade names/salts were considered and/or the selected role.</i>                                                     | <i>Disproportionality analysis: 1<sup>st</sup> and 2<sup>nd</sup> paragraph</i>                                                              |
|                                              | 6d | <i>Describe any additional data source used, the type of data, and how they interact with ICSRs.</i>                                                                                                                                  | <i>EV and VAERS were described in method</i>                                                                                                 |
| Statistical methods                          | 7a | <i>Present any descriptive analysis performed, specifying variables investigated, statistical tests, and significance thresholds.</i>                                                                                                 | <i>Table 2</i>                                                                                                                               |
|                                              | 7b | <i>Describe the measure(s) selected for the disproportionality analysis including any threshold used to identify signals of disproportionate reporting. Explain the reason for this choice if applicable.</i>                         | <i>Disproportionality analysis: 3<sup>rd</sup> paragraph and table 2</i>                                                                     |
|                                              | 7c | <i>Clearly describe any sensitivity analysis and any tool to control confounding, including any restriction, subgroup, stratification, adjustment, or interaction.</i>                                                                | <i>Merging dataset using a CDM and De-duplication and Sensitivity analysis sections</i>                                                      |
|                                              | 7d | <i>Specify the variables and methods used for the case-by-case analysis, including any algorithm or criteria used to assess causality, if performed.</i>                                                                              | <i>Merging dataset using a CDM and De-duplication section: 4<sup>rd</sup> paragraph</i>                                                      |
|                                              | 7e | <i>Specify any statistical methods used for other data sources.</i>                                                                                                                                                                   | <i>Disproportionality analysis</i>                                                                                                           |
| Results                                      |    |                                                                                                                                                                                                                                       |                                                                                                                                              |
| Participants                                 | 8a | <i>Specify the number of individual case safety reports included at each stage, including reasons for exclusion.</i>                                                                                                                  | <i>Figure 3 - flowchart</i>                                                                                                                  |
|                                              | 8b | <i>Provide key demographic and clinical characteristics of cases, if possible comparing cases with any appropriate reference group.</i>                                                                                               | <i>Table 3</i>                                                                                                                               |
| Disproportionality analysis                  | 9  | <i>Present all results including confidence intervals. Present also results of sensitivity analyses, if performed.</i>                                                                                                                | <i>Forest plot figures for PRR and</i>                                                                                                       |

|                       |     |                                                                                                                                                                                                                                       |                                                                                                           |
|-----------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Case-by-case analysis | 10  | <i>Present the case-by-case analysis of key variables. Present the causality assessment, if applicable.</i>                                                                                                                           | <i>A the causality assessment of case-by-case analysis of SDRs and supplementary materials</i>            |
| <b>Discussion</b>     |     |                                                                                                                                                                                                                                       |                                                                                                           |
| Key results           | 11  | <i>Discuss key results with reference to study objectives and contextualize them within the current literature and other consulted sources. Clearly discriminate between expected reactions and emerging safety signals.</i>          | <i>1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> paragraphs of Discussion section</i> |
| External validity     | 12a | <i>Discuss the external validity of the results to the general population.</i>                                                                                                                                                        | <i>4<sup>th</sup> and 5<sup>th</sup> paragraphs of Discussion section</i>                                 |
|                       | 12b | <i>Discuss the potential relevance of results in clinical practice</i>                                                                                                                                                                | <i>Conclusion</i>                                                                                         |
|                       | 12c | <i>Propose further study designs if applicable</i>                                                                                                                                                                                    | <i>Conclusion</i>                                                                                         |
| Limitations           | 13  | <i>Present general limitations, making clear that disproportionality analysis alone cannot prove causation or measure incidence, and specific limitations, including confounding and reporting bias and efforts to mitigate them.</i> | <i>Last paragraph of Discussion section</i>                                                               |
| <b>Declarations</b>   |     |                                                                                                                                                                                                                                       |                                                                                                           |
|                       | 14a | <i>Provide the source of funding/sponsorship and the role of the funders/sponsors for the present study and for any original study on which the present article is based.</i>                                                         | <i>Not applicable (or UMCU ?)</i>                                                                         |
|                       | 14b | <i>Clearly identify potential commercial and intellectual conflicts of interest (e.g., link to any drug/event investigated, whether financial, legal action, or software used).</i>                                                   | <i>Refer to conflict of interest</i>                                                                      |
|                       | 14c | <i>Declare any institutional approval needed or granted in the investigation.</i>                                                                                                                                                     | <i>Not applicable (or UMCU ?)</i>                                                                         |
|                       | 14d | <i>Include a statement on data availability, code availability (including the version of the statistical software used), and protocol registration.</i>                                                                               | <i>Data availability and Software session</i>                                                             |