PHARMACOLOGICAL RISK FACTORS FOR DRUG-DRUG INTERACTIONS IN PEOPLE LIVING WITH HIV: A SYSTEMATIC REVIEW


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Background and importance

Improved survival of people living with HIV (PLWH) increases comorbidities burden leading to polypharmacy and drug-drug interactions (DDIs). The risk factors (RF) for developing DDIs in PLWHIV are of interest to detect cases needing for pharmaceutical assessment.

Aim and objectives

Assess literature on the pharmacological RF for developing DDIs in PLWH

Material and methods

Following the PRISMA recommendations:

<table>
<thead>
<tr>
<th>IDENTIFICATION</th>
<th>SCREENING</th>
<th>ELIGIBILITY</th>
<th>INCLUDED</th>
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</thead>
<tbody>
<tr>
<td>A search combining terms associated with “ART”, “DDIs” and “RF” was conducted in MEDLINE database for relevant English- and Spanish-language articles from 2006 through January 2022</td>
<td>Screening phase</td>
<td>Full-text articles assessed for eligibility</td>
<td>Studies included in qualitative synthesis</td>
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<tr>
<td>N= 349</td>
<td>Excluded: Articles not mentioning data on DDIs between ART and non-ART N= 317</td>
<td>Excluded: Articles not contain information on RF for DDIs N= 22</td>
<td>Included: Longitudinal and cross-sectional studies N= 10</td>
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The outcome of interest: pharmacological RF for DDIs between ART and non-ART in PLWH ≥18 years.

Results

349 articles were identified and 10 included (4 longitudinal and 6 cross-sectional).

Number of comediations is a RF of occurrence of potential DDIs

- Kunimoto Y et al (OR=1.52[1.16–1.99])
- Okoli C et al (OR=1.3[1.2–1.3])
- Pontelo B Met al (OR=1.13[1.11–1.15])
- Bastida C et al (OR=1.18[1.14-1.22])
- El Moussaoui M et al
  - Orange-flag (OR=1.8[1.6–2.0])
  - Red-flag (OR=1.4[1.3–1.6])

Polypharmacy is a severe RF for DDIs

- Kunimoto Y et al (OR=11.69[3.01–45.40])
- López Centeno B et al
  - Red flags (OR=2.65[1.98–3.54])
  - Orange flag (OR=2.17[1.90–2.47])

ART-regimens containing protease inhibitors (PIs) were more likely to have DDIs compared with those containing non-nucleoside reverse transcriptase inhibitors (NNRTI) and integrase inhibitors (II)

- Halloran M O et al (OR uninformed)

This increased risk of IP-regimens was also notified by

- Chen R et al (OR=2.54[1.25-5.16])
- Bastida C et al (OR=1.18[1.14-1.22])
- Fernández Cañabate S et al (OR=8.82[4.07–19.14])

PIs as an independent RF for red/orange-flag

- El Moussaoui M et al
  - Orange-flag (OR=7.5[4.5-12.5])
  - Red-flag (OR=7.9[3.2-19.5])

This risk of PIs for red-flag was also reported by

López-Centeno B et al and Holtzman C et al

Conclusions

This is the first systematic review summarizing literature in this field and is helpful to stratify patients at need for specialized management to reduce DDIs and polypharmacy burden.