**Supplemental Material**

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**Supplementary Table 1 Search strategy**

| Database | | Search (done on September 13, 2023) | Items |
|---|---|---|---|
| Medline (Ovid) | 1 | exp Acinetobacter baumannii/ | 7230 |
| | 2 | (Acinetobacter baumannii or carbapenem resistant Acinetobacter baumannii or CRAB).mp. | 19558 |
| | 3 | exp Intensive Care Units, Neonatal/ | 18222 |
| | 4 | (Newborn Intensive Care Unit or Newborn Intensive Care Units or Neonatal Intensive Care Unit or Neonatal Intensive Care Units or NICU or Neonatal ICU or Neonatal ICUs or Newborn ICU or Newborn ICUs).mp. | 25128 |
| | 5 | 1 or 2 | 19558 |
| | 6 | 3 or 4 | 31391 |
| | 7 | 5 and 6 | 98 |
| Embase (Ovid) | 1 | exp Acinetobacter baumannii/ | 23411 |
| | 2 | exp carbapenem resistant Acinetobacter baumannii/ | 1171 |
| | 3 | (Acinetobacter baumannii or carbapenem resistant Acinetobacter baumannii or CRAB).mp. | 38055 |
| | 4 | exp neonatal intensive care unit/ | 22615 |
| | 5 | exp newborn intensive care/ | 27664 |
| | 6 | (neonatal intensive care unit or newborn intensive care or Newborn Intensive Care Units or Neonatal Intensive Care Unit or Neonatal Intensive Care Units or NICU or Neonatal ICU or Neonatal ICUs or Newborn ICU or Newborn ICUs).mp. | 65118 |
| | 7 | 1 or 2 or 3 | 38055 |
| | 8 | 4 or 5 or 6 | 65118 |
| | 9 | 7 and 8 | 337 |
| Global Health (Ovid) | 1 | (Acinetobacter baumannii or carbapenem resistant Acinetobacter baumannii or CRAB).mp. | 13804 |
| | 2 | (neonatal intensive care unit or newborn intensive care or Newborn Intensive Care Units or Neonatal Intensive Care Unit or Neonatal Intensive Care Units or NICU or Neonatal ICU or Neonatal ICUs or Newborn ICU or Newborn ICUs).mp. | 6773 |
| | 3 | 1 and 2 | 117 |
| Web of Science | 1 | All fields = (Acinetobacter baumannii or carbapenem resistant Acinetobacter baumannii or CRAB) AND (neonatal intensive care unit or newborn intensive care or Newborn Intensive Care Units or Neonatal Intensive Care Unit or Neonatal Intensive Care Units or NICU or Neonatal ICU or Neonatal ICUs or Newborn ICU or Newborn ICUs) | 164 |
| Global Index Medicus | 1 | (Acinetobacter baumannii or carbapenem resistant Acinetobacter baumannii) AND (neonatal intensive care unit or NICU) | 21 |

**Supplementary Table 2 Items for risk of bias assessment**

| | Yes (1) | No (0) | Unclear (0) | Not applicable (0) |
|---|---|---|---|---|
| 1. Was the study's target population a close representation of the national population in relation to relevant variables, e.g. age, sex, occupation? | | | | |
| 2. Was the sampling frame a true or close representation of the target population? | | | | |
| 3. Was some form of random selection used to select the sample, OR was a census undertaken? | | | | |
| 4. Was the likelihood of non-response bias minimal? | | | | |
| 5. Were data collected directly from the subjects (as opposed to a proxy)? | | | | |
| 6. Was an acceptable case definition used in the study? | | | | |
| 7. Was the study instrument that measured the parameter of interest shown to have reliability and validity (if necessary)? | | | | |
| 8. Was the same mode of data collection used for all subjects? | | | | |
| 9. Was the length of the shortest prevalence period for the parameter of interest appropriate? | | | | |
| 10. Were the numerator(s) and denominator(s) for the parameter of interest appropriate? | | | | |
| Summary item on the overall risk of study bias | | | | |
| Interpretation of the risk of bias tool<br>• 7-10: Low risk of bias<br>• 4-6: Moderate risk of bias<br>• 0-3: High risk of bias | | | | |

**Supplementary Table 3 Individual characteristics of included studies**

| Authors | Countries | Study period | Population categories | CRAB identification assay | Antimicrobial susceptibility testing methods | Antimicrobial susceptibility testing guidelines | Antibiotic used for susceptibility testing methods | Sample types |
|---|---|---|---|---|---|---|---|---|
| Arhoune el al., 2019 | Morocco | Feb/2013-Jul/2015 | Neonates | Culture (API gallery) | Disk diffusion test | European Committee on Antimicrobial Susceptibility Testing (EUCAST) | Imipenem | Rectal swabs |
| Baier el al., 2019 | Germany | Nov/2016-Mar/2018 | Neonates | Culture | Vitek-2 | Unclear/ not reported | Imipenem, Meropenem | Nasopharyngeal and rectal swabs |
| Cetin el al., 2022 | Türkiye | 2018-2021 | Neonates | Culture (BACTEC) | Vitek 2 | Unclear/ not reported | Carbapenem | Skin swabs |
| Chiguer el al., 2019 | Morocco | Mar/2018 | Environmental samples | Culture | Unclear/ not reported | European Committee on Antimicrobial Susceptibility Testing (EUCAST) | Carbapenems | Surface swabs |
| Horrevorts el al., 1995 | Netherlands | Jan/1989-Dec/1990 | Environmental samples | Culture | Disk diffusion test | Unclear/ not reported | Imipenem | Environmental samples |
| Karaaslan el al., 2016 | Türkiye | Mar/2013-October 2013 | Neonates | Culture, PCR | Vitek-2 | Unclear/ not reported | Carbapenem | Rectal swabs |
| Maciel el al., 2018 | Brazil | Sep/2013-Sep/2015 | Neonates | Culture (Vitek-2), MALDI-TOF MS | Vitek-2 | Clinical and Laboratory Standards Institute (CLSI), European Committee on Antimicrobial Susceptibility Testing (EUCAST) | Imipenem, Meropenem | Rectal swabs and catheter tip |
| Mariani el al., 2020 | Italy | Jan/2005-Oct/2018 | Neonates | Culture | Unclear/ not reported | Unclear/ not reported | Carbapenem | Nasal, pharyngeal and rectal swab, and tracheal aspirates |
| Milic el al., 2021 | Serbia | Dec/2017-Apr/2018 | Neonates | Culture (API gallery) | Disk diffusion test | European Committee on Antimicrobial | Carbapenem | Rectal swabs |

| Authors | Countries | Study period | Population categories | CRAB identification assay | Antimicrobial susceptibility testing methods | Antimicrobial susceptibility testing guidelines | Antibiotic used for susceptibility testing methods | Sample types |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Susceptibility Testing (EUCAST) | | |
| Mir el al., 2021 | India | Sep/2019-Feb/2020 | Environmental samples; HCWs | Culture | Disk diffusion test | Clinical and Laboratory Standards Institute (CLSI) | Imipenem | Surface swabs |
| Omran el al., 2020 | Egypt | Oct/2017-Dec/2017 | Environmental samples | Culture | Disk diffusion test | Clinical and Laboratory Standards Institute (CLSI) | Meropenem | Injectable lipid emulsion |
| Roberts el al., 2019 | Thailand | Feb/2015-Sep/2015 | Neonates | Culture (API gallery) | Disk diffusion test, E-test | Clinical and Laboratory Standards Institute (CLSI) | Imipenem | Rectal and throat swabs, stool samples |
| Sakai el al., 2020 | Brazil | Jan/2014-Sep/2018. | Neonates | Culture | Disk diffusion test | Clinical and Laboratory Standards Institute (CLSI), European Committee on Antimicrobial Susceptibility Testing (EUCAST) | Carbapenem | Oral, nasal, axillary and inguinal samples |
| Thatrimontrichai el al., 2020 | Thailand | Jan/2011-Dec/2017 | Neonates | Culture (BacT/Alert) | Disk diffusion test, E-test | Clinical and Laboratory Standards Institute (CLSI) | Imipenem, Meropenem | Endotracheal aspirates |

**Supplementary Table 4 Risk of bias assessment**

| Authors | Was the study's target population a close representation of the national population in relation to CRAB prevalence? | Was the sampling frame a true or close representation of the target population? | Was some form of random selection used to select the sample, OR was acensus undertaken? | Were data collected directly from the subjects (as opposed to a proxy)? | Was an acceptable inclusion criteria definition used in the study? | Did the author calculate and respect the expected sample size? | Was the CRAB detection assay shown to have reliability and validity? | Was the same mode of data collection used for all subjects? | Was the length of the study period > or = 1 year? | Were the numerator(s) and denominator(s) for the CRAB prevalence? | Risk of bias | Population categories |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arhoune el al., 2019 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |
| Baier el al., 2019 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |
| Cetin el al., 2022 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |
| Chiguer el al., 2019 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | No | Yes | Moderate risk of bias | Environmental samples |
| Horrevorts el al., 1995 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Environmental samples |
| Karaaslan el al., 2016 | No | Yes | Yes | Not applicable | Yes | No | Yes | Yes | No | Yes | Moderate risk of bias | Neonates |
| Maciel el al., 2018 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mariani el al., 2020 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |
| Milic el al., 2021 | No | Yes | Yes | Not applicable | Yes | No | Yes | Yes | No | Yes | Moderate risk of bias | Neonates |
| Mir el al., 2021 | No | Yes | No | Yes | Yes | No | Yes | Yes | No | Yes | Moderate risk of bias | Environmental samples; HCWs |
| Omran el al., 2020 | No | Yes | No | Not applicable | Yes | Yes | Yes | Yes | No | Yes | Moderate risk of bias | Environmental samples |
| Roberts el al., 2019 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | No | Yes | Moderate risk of bias | Neonates |
| Sakai el al., 2020 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |
| Thatrimontrichai el al., 2020 | No | Yes | No | Not applicable | Yes | No | Yes | Yes | Yes | Yes | Moderate risk of bias | Neonates |

**Supplementary Table 5 Subgroup analyses of proportion of CRAB colonisation in neonatal intensive care units**

| | Prevalence. % (95%CI) | N Studies | N Participants | P difference subtypes |
|---|---|---|---|---|
| **Neonates** | | | | |
| **Countries** | | | | <0.001 |
| Brazil | 0.2 [0-0.7] | 1 | 618 | |
| Germany | 0 [0-0.3] | 1 | 584 | |
| Italy | 0 [0-2.8] | 1 | 61 | |
| Morocco | 1.3 [0.4-2.6] | 1 | 455 | |
| Serbia | 13.6 [7.6-21] | 1 | 103 | |
| Thailand | 10.5 [2.4-23.3] | 4 | 4027 | |
| Türkiye | 7.2 [5.5-9.2] | 1 | 762 | |
| **WHO Region** | | | | 0.002 |
| America | 0.2 [0-0.7] | 1 | 618 | |
| Eastern Mediterranean | 1.3 [0.4-2.6] | 1 | 455 | |
| Europe | 3.1 [0-11.9] | 4 | 1510 | |
| South-East Asia | 10.5 [2.4-23.3] | 4 | 4027 | |
| **World Bank Income Groups** | | | | <0.001 |
| High-income countries | 0 [0-0.1] | 2 | 645 | |
| Lower-middle-income countries | 1.3 [0.4-2.6] | 1 | 455 | |
| Upper-middle-income countries | 8 [2.5-16.1] | 7 | 5510 | |
| **Environmental samples** | | | | |
| **Countries** | | | | <0.001 |
| Egypt | 0 [0-1.1] | 1 | 152 | |
| India | 10 [4.2-17.7] | 1 | 80 | |
| Morocco | 5.2 [2.9-8.1] | 1 | 290 | |
| Netherlands | 0 [0-20.4] | 1 | 8 | |
| **WHO Region** | | | | 0.187 |
| Eastern Mediterranean | 1.7 [0-10.1] | 2 | 442 | |
| Europe | 0 [0-20.4] | 1 | 8 | |
| South-East Asia | 10 [4.2-17.7] | 1 | 80 | |
| **World Bank Income Groups** | | | | 0.88 |
| High-income countries | 0 [0-20.4] | 1 | 8 | |
| Lower-middle-income countries | 3.5 [0-11.5] | 3 | 522 | |