

## Anexo 1 - Estrategias de búsqueda

### a) MEDLINE

| Search              | Add to builder      | Query                                                                | Items found             | Time     |
|---------------------|---------------------|----------------------------------------------------------------------|-------------------------|----------|
| <a href="#">#23</a> | <a href="#">Add</a> | Search((#7 AND #17 AND #22))                                         | <a href="#">1113</a>    | 15:00:55 |
| <a href="#">#22</a> | <a href="#">Add</a> | Search((#18 OR #19 OR #20 OR #21))                                   | <a href="#">1246158</a> | 15:00:44 |
| <a href="#">#21</a> | <a href="#">Add</a> | SearchFatalit*[tiab]                                                 | <a href="#">22365</a>   | 15:00:30 |
| <a href="#">#20</a> | <a href="#">Add</a> | SearchDeath[tiab]                                                    | <a href="#">571916</a>  | 15:00:19 |
| <a href="#">#19</a> | <a href="#">Add</a> | SearchMortalit*[tiab]                                                | <a href="#">591201</a>  | 15:00:13 |
| <a href="#">#18</a> | <a href="#">Add</a> | SearchMortality[Mesh]                                                | <a href="#">319678</a>  | 15:00:07 |
| <a href="#">#17</a> | <a href="#">Add</a> | Search ((#8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16)) | <a href="#">189766</a>  | 14:59:59 |
| <a href="#">#16</a> | <a href="#">Add</a> | Search Intensive Care Units[Mj]                                      | <a href="#">31141</a>   | 14:59:49 |
| <a href="#">#15</a> | <a href="#">Add</a> | SearchIntensiveCare[Mj]                                              | <a href="#">29939</a>   | 14:59:42 |
| <a href="#">#14</a> | <a href="#">Add</a> | SearchCriticalCare[Mj]                                               | <a href="#">29939</a>   | 14:59:33 |
| <a href="#">#13</a> | <a href="#">Add</a> | SearchCriticalIll*[tiab]                                             | <a href="#">6866</a>    | 14:59:10 |
| <a href="#">#12</a> | <a href="#">Add</a> | SearchStressed[tiab]                                                 | <a href="#">37006</a>   | 14:59:04 |
| <a href="#">#11</a> | <a href="#">Add</a> | SearchCritical-Illness[Mesh]                                         | <a href="#">21094</a>   | 14:58:57 |
| <a href="#">#10</a> | <a href="#">Add</a> | SearchMechanicalventilat*[tiab]                                      | <a href="#">33768</a>   | 14:57:30 |
| <a href="#">#9</a>  | <a href="#">Add</a> | SearchArtificialrespirat*[tiab]                                      | <a href="#">1726</a>    | 14:57:10 |
| <a href="#">#8</a>  | <a href="#">Add</a> | SearchRespiration, Artificial[Mesh]                                  | <a href="#">66391</a>   | 14:57:01 |

|           |            |                                             |               |          |
|-----------|------------|---------------------------------------------|---------------|----------|
| <u>#7</u> | <u>Add</u> | Search ((#1 OR #2 OR #3 OR #4 OR #5 OR #6)) | <u>525098</u> | 14:56:51 |
| <u>#6</u> | <u>Add</u> | SearchQuetelet*[tiab]                       | <u>825</u>    | 14:56:40 |
| <u>#5</u> | <u>Add</u> | SearchBodyMass[tiab]                        | <u>161136</u> | 14:56:32 |
| <u>#4</u> | <u>Add</u> | SearchBodyWeight[tiab]                      | <u>174281</u> | 14:56:24 |
| <u>#3</u> | <u>Add</u> | SearchOverweight[tiab]                      | <u>51408</u>  | 14:56:13 |
| <u>#2</u> | <u>Add</u> | SearchObes*[tiab]                           | <u>231724</u> | 14:56:06 |
| <u>#1</u> | <u>Add</u> | SearchOverweight[Mesh]                      | <u>172497</u> | 14:55:54 |

## b) Cochrane Library (Wiley) 21-02-2017

|     |                                                                   |
|-----|-------------------------------------------------------------------|
| ID  | Search Hits                                                       |
| #1  | MeSH descriptor: [Overweight] explode all trees 10925             |
| #2  | Obes*:ti,ab,kw 21228                                              |
| #3  | Overweight:ti,ab,kw 7672                                          |
| #4  | Body Weight:ti,ab,kw 32364                                        |
| #5  | Body Mass:ti,ab,kw 28482                                          |
| #6  | Quetelet*:ti,ab,kw 30                                             |
| #7  | #1 or #2 or #3 or #4 or #5 or #6 58789                            |
| #8  | MeSH descriptor: [Respiration, Artificial] explode all trees 5477 |
| #9  | Artificial respirat*:ti,ab,kw 4523                                |
| #10 | Mechanical ventilat*:ti,ab,kw 4976                                |
| #11 | MeSH descriptor: [Critical Illness] explode all trees 1514        |
| #12 | Stressed:ti,ab,kw 663                                             |

- #13 Critical Ill\*:ti,ab,kw 5591
- #14 MeSH descriptor: [Critical Care] explode all trees 2112
- #15 MeSH descriptor: [Intensive Care Units] explode all trees 3255
- #16 #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 17330
- #17 MeSH descriptor: [Mortality] explode all trees 12921
- #18 Mortalit\*:ti,ab,kw 39682
- #19 Death:ti,ab,kw30573
- #20 Fatalit\*:ti,ab,kw 2009
- #21 #18 or #19 or #20 61353
- #22 #7 and #16 and #21 235

**c) CINAHL (Ebsco) 23-02-2017**

| #   | Query                                              | Results |
|-----|----------------------------------------------------|---------|
| S22 | S7 AND S16 AND S21                                 | 404     |
| S21 | S17 OR S18 OR S19 OR S20                           | 147,459 |
| S20 | TI Fatalit* OR AB Fatalit*                         | 3,882   |
| S19 | TI Death OR AB Death                               | 93,841  |
| S18 | TI Mortalit* OR AB Mortalit*                       | 103,140 |
| S17 | (MH "Mortality+")                                  | 46,871  |
| S16 | S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 | 45,193  |
| S15 | (MH "IntensiveCareUnits+")                         | 41,321  |
| S14 | (MH "CriticalCare+")                               | 20,639  |
| S13 | TI Critical Ill* OR AB Critical Ill*               | 8,962   |

|     |                                                    |        |
|-----|----------------------------------------------------|--------|
| S12 | TI Stressed OR AB Stressed                         | 2,886  |
| S11 | (MH "CriticalIllness")                             | 7,983  |
| S10 | TI Mechanical ventilat* OR AB Mechanical ventilat* | 9,384  |
| S9  | TI Artificial respirat* OR AB Artificial respirat* | 249    |
| S8  | (MH "Respiration, Artificial+")                    | 23,354 |
| S7  | S1 OR S2 OR S3 OR S4 OR S5 OR S6                   | 82,674 |
| S6  | TI Quetelet* OR AB Quetelet*                       | 45     |
| S5  | TI Overweight OR AB Overweight                     | 17,598 |
| S4  | TI Body Mass OR AB Body Mass                       | 41,340 |
| S3  | TI Body Weight OR AB Body Weight                   | 29,653 |
| S2  | TI Obes* OR AB Obes*                               | 58,202 |
| S1  | (MH "Obesity+")                                    | 67,695 |

#### d) Global Health (OVID) 23-02-2017

| # | Searches          | Results |
|---|-------------------|---------|
| ▲ |                   | ts      |
|   |                   | 1053    |
| 1 | Obes*.ti,ab.      | 92      |
|   |                   | 3224    |
| 2 | Overweight.ti,ab. | 4       |
|   |                   | 7212    |
| 3 | BodyWeight.ti,ab. | 9       |
|   |                   | 6116    |
| 4 | BodyMass.ti,ab.   | 1       |

|    |                             |      |
|----|-----------------------------|------|
| 5  | Quetelet*.ti,ab.            | 328  |
|    |                             | 1984 |
| 6  | or/1-5                      | 73   |
| 7  | Artificial respirat*.ti,ab. | 354  |
|    | Mechanicalventilat*.ti,a    |      |
| 8  | b.                          | 4549 |
| 9  | CriticalIll*.ti,ab.         | 1082 |
| 10 | CriticalCare.ti,ab.         | 1708 |
|    |                             | 2033 |
| 11 | IntensiveCare.ti,ab.        | 5    |
|    |                             | 2485 |
| 12 | or/7-11                     | 7    |
|    |                             | 1485 |
| 13 | Mortalit*.ti,ab.            | 62   |
|    |                             | 9924 |
| 14 | Death.ti,ab.                | 7    |
|    |                             | 1143 |
| 15 | Fatalit*.ti,ab.             | 1    |
|    |                             | 2249 |
| 16 | or/13-15                    | 77   |
| 17 | 6 and 12 and 16             | 356  |

**Tabla 1. Recolección de datos de los estudios incluidos.**

| Primer autor (año)              | Diseño        | Tamaño muestral (n) | Pacientes con VMI analizados (obesos/no-obesos) | Tipo de UCI       | Severidad                 |
|---------------------------------|---------------|---------------------|-------------------------------------------------|-------------------|---------------------------|
| Duane (2006)                    | Retrospectivo | 453                 | 10/51                                           | NI                | ISS/NISS/AIS/Head AIS/GCS |
| O'Brien (2006)                  | Retrospectivo | 1488                | 457/1031                                        | NI                | SAPS II                   |
| Frat (2008)                     | Prospectivo   | 206                 | 82/124                                          | Médica/quirúrgica | SAPS II                   |
| Lam (2008)                      | Retrospectivo | 66                  | 32/34                                           | NI                | SAPS II/SOFA/APACHE II    |
| Gong (2009)                     | Prospectivo   | 1795                | 480/1315                                        | NI                | APACHE III                |
| Joffe (2009)                    | Retrospectivo | 201                 | 51/150                                          | Médica            | APACHE III                |
| Wurzing (2010)                  | Retrospectivo | 301                 | 61/209                                          | General           | SAPS II/SOFA              |
| Blaser (2011)                   | Prospectivo   | 563                 | 97/134                                          | General           | SOFA/APACHE II            |
| O'Brien (2012)                  | Prospectivo   | 580                 | 238/342                                         | Médica            | APACHE II                 |
| Sakr (2015)                     | Retrospectivo | 8829                | 865/3421                                        | NI                | APACHE II                 |
| Sasabuchi (2015)                | Retrospectivo | 334.238             | 3407/74527                                      | General           | NE                        |
| Tafelski (2015)                 | Prospectivo   | 581                 | 85/240                                          | Quirúrgica        | SAPS II                   |
| Papadimitriou- Olivgeris (2016) | Retrospectivo | 834                 | 163/671                                         | General           | SAPS II/SOFA/APACHE II    |
| Medrinal (2016)                 | Prospectivo   | 124                 | 44/80                                           | NI                | SAPS II                   |

*Referencias:* NI: no informado; ISS: Injury Severity Score; NISS: New Injury Severity Score; AIS: Abdominal Abbreviated Injury Score;

GCS: Glasgow Coma Scale; SAPS II: Simplified Acute Physiologic Score II; APACHE: Acute Physiologic and Chronic Health Evaluation;

SOFA: Sepsis-Related Organ Failure Assessment

| Tabla 2. Calidad de los estudios de cohorte incluidos basados en la Escala Newcastle-Ottawa |                                 |                              |                                |                                                        |                                                                |                          |                                                          |                                              |       |
|---------------------------------------------------------------------------------------------|---------------------------------|------------------------------|--------------------------------|--------------------------------------------------------|----------------------------------------------------------------|--------------------------|----------------------------------------------------------|----------------------------------------------|-------|
| Referencias                                                                                 | Selección                       |                              |                                |                                                        | Comparabilidad                                                 | Resultados               |                                                          |                                              | Total |
|                                                                                             | Cohorte expuesta representativa | Cohorte no expuesta adecuada | Determinación de la exposición | Resultado de interés no presente al inicio del estudio | Comparabilidad de cohortes sobre la base del diseño o análisis | Evaluación del resultado | Seguimiento suficiente para que se produzca el resultado | Adecuación del seguimiento para las cohortes |       |
| Frat 2008                                                                                   | *                               |                              | *                              | *                                                      | **                                                             | *                        |                                                          |                                              | 6     |
| Gong 2009                                                                                   | *                               | *                            | *                              |                                                        | **                                                             | *                        | *                                                        | *                                            | 8     |
| Blaser 2011                                                                                 | *                               | *                            | *                              |                                                        | **                                                             | *                        | *                                                        |                                              | 7     |
| O'Brien 2012                                                                                | *                               | *                            | *                              |                                                        | **                                                             | *                        | *                                                        |                                              | 7     |
| Tafelski 2015                                                                               | *                               | *                            | *                              |                                                        | **                                                             | *                        |                                                          |                                              | 6     |
| Medrinal 2016                                                                               | *                               | *                            | *                              |                                                        | **                                                             | *                        | *                                                        |                                              | 7     |

| <b>Tabla 3. Calidad de los estudios de casos y controles incluidos basados en la Escala Newcastle-Ottawa</b> |                                                               |                                       |                                                                       |                                                                        |                                                                                   |                                               |                                                                           |                                 |              |
|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------|---------------------------------|--------------|
| <b>Referencias</b>                                                                                           | <b>Selección</b>                                              |                                       |                                                                       |                                                                        | <b>Comparabilidad</b>                                                             | <b>Exposición</b>                             |                                                                           |                                 | <b>Total</b> |
|                                                                                                              | <b>Adecua<br/>da<br/>definici<br/>ón de<br/>los<br/>casos</b> | <b>Casos<br/>representati<br/>vos</b> | <b>Adecua<br/>da<br/>selecció<br/>n<br/>de los<br/>control<br/>es</b> | <b>Adecua<br/>da<br/>definici<br/>ón de<br/>los<br/>control<br/>es</b> | <b>Comparabilidad<br/>de cohortes<br/>sobre la base del<br/>diseño o análisis</b> | <b>Determinación<br/>de la<br/>exposición</b> | <b>Mismo<br/>método<br/>para<br/>determinar<br/>casos y<br/>controles</b> | <b>Tasa de no<br/>respuesta</b> |              |
| Duane 2006                                                                                                   | *                                                             | *                                     | *                                                                     |                                                                        |                                                                                   |                                               | *                                                                         |                                 | 4            |
| O'Brien 2006                                                                                                 | *                                                             | *                                     | *                                                                     | *                                                                      | *                                                                                 | *                                             |                                                                           | *                               | 7            |
| Lam 2008                                                                                                     | *                                                             | *                                     | *                                                                     |                                                                        | *                                                                                 | *                                             | *                                                                         | *                               | 7            |
| Wurzinger<br>2010                                                                                            | *                                                             | *                                     | *                                                                     | *                                                                      | **                                                                                | *                                             | *                                                                         |                                 | 8            |
| Joffe 2009                                                                                                   | *                                                             | *                                     |                                                                       |                                                                        | *                                                                                 | *                                             | *                                                                         |                                 | 5            |
| Sakr 2015                                                                                                    | *                                                             | *                                     | *                                                                     | *                                                                      |                                                                                   | *                                             | *                                                                         |                                 | 6            |
| Sasabuchi<br>2015                                                                                            | *                                                             | *                                     | *                                                                     |                                                                        | **                                                                                | *                                             | *                                                                         |                                 | 7            |
| Papadimitrio<br>u – Olivgeris<br>2016                                                                        | *                                                             | *                                     | *                                                                     |                                                                        | **                                                                                | *                                             | *                                                                         |                                 | 7            |

Tabla 4. Escala GRADE. Valoración de la calidad de evidencia.

Autor(es): Antonela Vicente

Fecha:

Pregunta: Obesos comparado con no obesos en ventilación mecánica invasiva

Configuración:

**Bibliografía:** O'Brien JM, Jr., Phillips GS, Ali NA, Abernethy SK, Marsh CB, Lemeshow S. The association between body mass index, processes of care, and outcomes from mechanical ventilation: a prospective cohort study. *Critical care medicine*. 2012;40(5):1456-63. Medrinal C, Prieur G, Frenoy E, Robledo Quesada A, Poncet A, Bonnevie T, et al. Respiratory weakness after mechanical ventilation is associated with one-year mortality - a prospective study. *Critical care (London, England)*. 2016;20(1):231. Gong MN, Bajwa EK, Thompson BT, Christiani DC. Body mass index is associated with the development of acute respiratory distress syndrome. *Thorax*. 2010;65(1):44-50. Tafelski S, Yi H, Ismaeel F, Krannich A, Spies C, Nachtigall I. Obesity in critically ill patients is associated with increased need of mechanical ventilation but not with mortality. *Journal of Infection and Public Health*. 2016;9(5):577-85. Frat JP, Gissot V, Ragot S, Desachy A, Runge I, Lebert C, et al. Impact of obesity in mechanically ventilated patients: a prospective study. *Intensive care medicine*. 2008;34(11):1991-8. Reintam Blaser A, Parm P, Kitus R, Starkopf J. Risk factors for intra-abdominal hypertension in mechanically ventilated patients. *Acta anaesthesiologica Scandinavica*. 2011;55(5):607-14. Duane TM, Dechert T, Aboutanos MB, Malhotra AK, Ivatury RR. Obesity and outcomes after blunt trauma. *The Journal of trauma*. 2006;61(5):1218-21. Joffe A, Mak R, Wood K. Intensive Care Unit Outcomes Are Not Adversely Affected by Obesity in Patients with Respiratory Failure. *The Internet Journal of Anesthesiology*. 2009;24(2). Lam SW, Bauer SR, Cha SS, Oyen LJ. Lack of an effect of body mass on the hemodynamic response to arginine vasopressin during septic shock. *Pharmacotherapy*. 2008;28(5):591-9. O'Brien JM, Jr., Phillips GS, Ali NA, Lucarelli M, Marsh CB, Lemeshow S. Body mass index is independently associated with hospital mortality in mechanically ventilated adults with acute lung injury. *Critical care medicine*. 2006;34(3):738-44. Papadimitriou-Olivgeris M, Aretha D. The Role of Obesity in Sepsis Outcome among Critically Ill Patients: A Retrospective Cohort Analysis. *BioMed research international*. 2016;2016:5941279. Sasabuchi Y, Yasunaga H, Matsui H, Lefor AT, Horiguchi H, Fushimi K, et al. The Dose-Response Relationship Between Body Mass Index and Mortality in Subjects Admitted to the ICU With and Without Mechanical Ventilation. *Respiratory care*. 2015;60(7):983-91. Würzinger B, Dunser MW, Wohlmuth C, Deutinger MC, Ulmer H, Torgersen C, et al. The association between body-mass index and patient outcome in septic shock: a retrospective cohort study. *Wiener klinische Wochenschrift*. 2010;122(1-2):31-6. Sakr Y, Alhussami I, Nanchai R, Wunderink RG, Pellis T, Wittebole X, et al. Being Overweight Is Associated With Greater Survival in ICU Patients: Results From the Intensive Care Over Nations Audit. *Critical care medicine*. 2015;43(12):2623-32.

Overweight is Associated with Greater Survival in ICU Patients: Results From the Intensive Care Over Nations Audit. Critical care medicine. 2015;43(12):2623-32.

| Certainty assessment                      |                          |                 |                |                      |             |                       | Nº de pacientes  |                    | Efecto                |                                           | Certainty                                                                                       | Importancia |
|-------------------------------------------|--------------------------|-----------------|----------------|----------------------|-------------|-----------------------|------------------|--------------------|-----------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------|-------------|
| Nº de estudios                            | Diseño de estudio        | Riesgo de sesgo | Inconsistencia | Evidencia Indirecta  | Imprecisión | Otras consideraciones | obesos           | no obesos          | Relativo (95% CI)     | Absoluto (95% CI)                         |                                                                                                 |             |
| Mortalidad en Unidad de Cuidados Críticos |                          |                 |                |                      |             |                       |                  |                    |                       |                                           |                                                                                                 |             |
| 14                                        | estudios observacionales | serio *         | muy serio      | serio <sup>a,b</sup> | serio *     | ninguno               | 903/6072 (14.9%) | 9032/82329 (11.0%) | OR 0.94 (0.81 a 1.10) | 6 menos por 1.000 (de 10 más a 19 menos ) | <br>MUY BAJA | CRÍTICO     |

CI: Intervalo de confianza ; OR: Razón de momios

**Explicaciones**

a. Información proveniente de estudios observacionales retrospectivos y prospectivos de baja calidad con un considerable riesgo de sesgo medido con la Escala de Newcastle-Ottawa.

b. La información detallada en los estudios no considera posibles factores confundidores en su análisis.