



# Índices de oxigenación como predictores en insuficiencia respiratoria tratados con cánula nasal de alto flujo versus ventilación mecánica no invasiva. Revisión sistemática

Oxygenation indices as predictors of respiratory failure treated with high-flow nasal cannula versus non-invasive mechanical ventilation. Systematic review

Índices de oxigenação como preditores de insuficiência respiratória tratada com cânula nasal de alto fluxo versus ventilação mecânica não invasiva. Revisão sistemática

## RESUMEN

**Introducción:** Para la evaluación de oxigenación y manejo terapéutico con cánula nasal de alto flujo y/o ventilación mecánica no invasiva en unidades de cuidado intensivo adulto, se utiliza índices de oxigenación. **Objetivo:** Evaluar los índices de oxigenación como predictores de mortalidad, oxigenación, intubación, extubación y soporte ventilatorio en pacientes adultos en cuidado intensivo con insuficiencia respiratoria bajo asistencia de cánula nasal de alto flujo Vs. ventilación mecánica no invasiva. **Materiales y métodos:** Revisión sistemática de literatura, se seleccionaron 289 estudios, 20 estudios fueron revisados con la lista *Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies* y *Quality Assessment of Case-Control Studies*, por cuatro árbitros cegados. **Resultados:** Los índices de oxigenación confirmaron el diagnóstico de insuficiencia respiratoria, con mejoría de la presión arterial y saturación porcentual de oxígeno. El índice de Kirby mejoró significativamente con cánula nasal de alto flujo, soporte que presenta mejor tolerancia y menor tasa de reintubación. El uso de ventilación mecánica no invasiva se asoció con un mayor riesgo de mortalidad. **Conclusión:** Los índices de oxigenación son predictores críticos en la insuficiencia respiratoria aguda, y la monitorización sistemática de estos optimiza la toma de decisiones terapéuticas y mejora el pronóstico de supervivencia.

**Palabras clave:** Cuidado intensivo; ventilación no invasiva; insuficiencia respiratoria; revisión sistemática; metaanálisis. (Fuente: DeCS, Bireme).

**Objetivos de desarrollo sostenible:** Salud y bienestar. (Fuente: ODS, OMS).

## ABSTRACT

**Introduction:** Oxygenation indices are used to assess oxygenation and guide therapeutic management with high-flow nasal cannula therapy and/or noninvasive mechanical ventilation in adult intensive care units. **Objective:** To evaluate oxygenation indices as predictors of mortality, oxygenation, intubation, extubation, and ventilatory support in adult intensive care patients with respiratory failure receiving high-flow nasal cannula therapy versus noninvasive mechanical ventilation. **Materials and methods:** A systematic literature review was conducted; 289 studies were selected, and 20 studies were reviewed using the *Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies* and the *Quality Assessment of Case-Control Studies* by four blinded reviewers. **Results:** Oxygenation indices confirmed the diagnosis of respiratory failure, with improvements in arterial pressure and oxygen saturation. The Kirby index improved significantly with high-flow nasal cannula, a form of support that is better tolerated and has a lower reintubation rate. The use of noninvasive mechanical ventilation was associated with a higher risk of mortality). **Conclusion:** Oxygenation indices are critical predictors in acute respiratory failure, and their systematic monitoring optimizes therapeutic decision-making and improves the prognosis for survival.

**Keywords:** Critical care; noninvasive entilation; respiratory insufficiency; systematic review; meta-analysis. (Source: DeCS, Bireme).

**Sustainable development goals:** Good health and well-being. (Source: SDG, WHO).

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