Answers

. Does fluid management protocol followed with IVC collapsibility improve the outcome of critically ill patients?
. Can oxygen with a nasal cannula at the initial stages of pneumonia prevent ICU admission?
. Noninvasive ventilation is better than invasive ventilation in COPD patients with respiratory failure.
. Effect on mortality of adjuvant steroid therapy in patients on invasive ventilation secondary to respiratory infections
. effect of fluid overload in critical care unit: restrictive versus aggressive fluid therapy: which one is better
. Target oxygen threshold: what should we target for ARDS especially due to severe chest infections
. Does awake prone positioning reduce the need for invasive ventilation in Acute Hypoxaemic respiratory failure?
. What is the optimal oxygen thresholds in Acute Hypoxaemic respiratory failure?
. What is the optimal approach to weaning from invasive MV?
. Does awake self-proning during respiratory failure due to infection reduce the need for mechanical ventilation or reaching the threshold where mechanical ventilation would be considered if it was available
. How many hours out of 24h of awake self-proning is needed during respiratory failure due to infection, to reduce the need for mechanical ventilation or reaching the threshold where mechanical ventilation would be considered, if it was available
. Does non-invasive ventilation (HFNC vs CPAP) infer a survival advantage above that of low flow O2 in patients where mechanical ventilation for respiratory failure would be considered, but where this treatment is not available
. What are the challenges in providing respiratory support in LMICs
. What is the burden of diseases requiring respiratory support in LMICs
. cost-effectiveness study of new intervention for improved respiratory support in LMICs
. Are the healthcare workers in LMICs trained to triage, identify, manage and refer SARI patients based on their Oxygen needs to respective levels of care to prevent delay
. Are the ventilation weaning mechanisms standardised for follow up care
. Are all the Oxygen delivery units standardised and accredited by institutions for Quality Control
. Hypothesis: High flow support using air or a reduced )2 concentration is as efficacious as conventional high flow
. Hypothesis: Positional support (proning, turning) can reduce the risk of invasive ventilation
. Hypothesis: A reduced target oxygenation threshold is not inferior to a normal threshold in non-intubated patients receiving respiratory support
. To determine the best ventilatory support for patients with severe CAP
. To determine the best co-adjundant treatment for patients with severe CAP
. To compare HFNC to other ventilatory strategies for acute respiratory failure.
. Outcomes and improvement per intervention
. Need assessment for designing intervention
. Identifying high risk population subgroups who could benefit the most from simple interventions
. Burden of SARI in LMICs
. Impact of training HCW and availability non-invasive CPAP on the outcome of SARI.
. Utilization and Availability of low flow oxygen and continuous pulse oximetry in our EPU settings will improve favorable outcome in children with SARI.
. Does protocolized Spo2-targeted oxygen therapy (including standard flow, high flow, and pressure-based respiratory support as available) improve survival?
. Are there any available pharmacologics that could improve outcomes for hypoxemia patients of particular causes (steroids in pneumonia, etc)
. Do the hypo- and hyper-inflammatory subphenotypes identified in HICs correspond to those in LIC populations? Can these by identified by regularly-collected VS and labs? (This is critical to know whether the ongoing and emerging studies on interventions for one subphenotypes in HICs apply or don't in LICs)
. Hypothesis: Among hospitalised adults in low income settings (participants) a conservative oxygen regimen (intervention) is non-inferior to a liberal oxygen regimen (comparator) with respect to in-hospital mortality (primary outcome).
. Hypothesis: Among adults who required unplanned life support in the ICU (participants) implementation of an individualised oxygen therapy regimen based on a validated machine-learning model (Intervention) compared to usual care (comparator) reduces in-hospital mortality (primary outcome).
. Hypothesis: Among hospitalised adults in low and middle income countries (participants) a closed loop control strategy using automatic titration of high flow oxygen therapy* to achieve a prescribed saturation target (intervention) compared to usual care (comparator) reduces in-hospital mortality.
[NB: * this emerging technology is coming to market and, in settings where oxygen is readily available but staffing is limited, may allow safer use of oxygen to minimise the risks of hypoxaemia or hyperoxaemia]

Answers

. Outcome in patients at different oxygen target thresholds.
. Standardization of NIV protocols in patients with acute respiratory failure.
. Outcomes in patients initiated on Oxygen therapy with nasal canula vs face mask.
. Is use of HFNC in LMICs cost effective?
. Cost effective strategy for management of sedation in patients on mechanical ventilation
. Optimal fluid management strategies
. In what conditions, would NIV avoid utilization of IMV for AHRF patients? (given resource allocation standpoint)
. In what conditions, would NIV be non-inferior or superior to HFNC? (given oxygen supply standpoint)
. what would be the optimal SpO2 among black patients with AHRF, and how frequent is the optimal frequency of the SpO2 monitoring? (given SpO2 differences across ethnicity, and access to ABG or continuous SpO2 monitoring)
. Liberal vs conservative oxygen threshold in unintubated patients
. Hisg vs low PEEP in invasiveky ventilated patiwnts
. Coap vs hfno
. What are the optimal mechanical ventilation strategies for severe resp failure?
. How to transition to and ventilate during spontaneous ventilation
. What are the fastest and safest ways to wean respiratory supports
. burden of illness
. Effectiveness of low-cost non-invasive ventilation strategies (especially technologies developed and available in low and low-middle income settings)
. Effectiveness of awake prone position for patients with hypoxic respiratory failure
. Safety and effectiveness of pharmacological therapies (steroids, other immunomodulators etc.,)
. What is the best IV fluids protocol in critically ill patients?
. What is the impact of hyperlipidemia on the prognosis of critically ill patients
. Research Question: What is the most effective and cost-efficient oxygen delivery method (e.g., nasal cannula, non-rebreather mask, or high-flow nasal cannula) for reducing mortality in patients with SARI in LMICs?
Hypothesis: High-flow nasal cannula therapy improves survival rates and reduces hospital stays compared to standard nasal cannula in patients with SARI, while remaining cost-effective in LMIC settings
. Research Question: Does the routine use of pulse oximetry for triage and monitoring improve early detection of hypoxemia and outcomes in patients with SARI in LMIC healthcare facilities?
Hypothesis: Routine use of pulse oximetry reduces delayed oxygen initiation and decreases mortality rates in SARI patients compared to clinical signs-based assessment alone.
. Research Question: Can task-shifting oxygen management to trained non-physician healthcare workers improve access to timely and appropriate oxygen therapy in LMIC primary care facilities for patients with SARI?
Hypothesis: Training non-physician healthcare workers to manage oxygen delivery in SARI patients leads to improved access and comparable outcomes to physician-led care in LMICs.
. Burden of illness
. Availability of interventions
. Support of patients
. Effect of high flow o2 tgerapy in COPD patients
. Targeted fluid therap in critically ill patients
. Sedation vs no sedation in mechanically ventikated patients
. How to make mechanical ventilation safe in the hands of untrained/minimally trained staff?
. What is the best first line non-invasive respiratory support outside an intensive care setting?
. Can Boussignac CPAP improve outcome of mild to moderate hypoxaemic respiratory failure (if access to invasive mechanical ventilatory support is limited)?
. What is the impact of non-in Visa ventilation compared to oxygen therapy in hypoxic respiratory failure?
. What is the correct oxygen saturation target by which to titrate oxygen therapy?
. What is the best fluid strategy in patients with hypoxic respiratory failure due to sepsis?
. What is the effect of HFNO vs NIV-face mack vs NIV-helmet on clinical outcomes for patients with AHRF?
. What is the effect of corticosteroids vs no corticosteroids on clinical outcomes for patients with AHRF?
. In a platform trial to determine comparative effectiveness in patients requiring IMV for AHRF is duration of mechanical ventilation shorter if ventilated with a specific ventilatory strategy (including driving pressure limited APRV) compared to usual care.
. In a platform trial to determine comparative effectiveness in patients requiring non-invasive respiratory support for AHRF is duration of mechanical ventilation shorter if ventilated with a specific strategy (including CPAP, HFNO, NIV) compared to usual care.
. In a precision medicine platform trial in patients requiring respiratory support for AHRF is duration of mechanical

| Answers |
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| ventilation shorter if treated with a specific drug therapy compared to usual care.<br>. Safety and Effectiveness of high flow nasal cannula in acute respiratory failure from only Lower respiratory tract infections.<br>. Effectiveness of High flow nasal cannula in acute respiratory failure from traumatic chest injuries (Hemo/pneumo-thorax).<br>. Non-inferiority of Point of care Lung ultrasound in the diagnosis of severe pneumonia versus use of chest X-ray in resource limited settings.<br>. What are the most effective interventions to decease mortality and morbidity of hospital acquired infections in resources- limited regions?<br>. Can the use of point-of-care diagnostics reduce delays in the treatment of infectious diseases in resources-limited regions?<br>. What is the impact of nutritional support on critically ill patients with malnutrition ?<br>. Knowledge and Factors limiting optimal utilization of oxygen in LMIC<br>. Develop and validate algorithms for automated oxygen titration systems<br>. • Evaluate the economic and societal impact of various oxygen therapy interventions<br>. Comparison of using strict protocolised sedation strategies vs clinician driven strategies for early weaning from invasive ventilation? |