

Prevalence of ventilator-associated pneumonia in patients admitted to intensive care units in Saudi Arabia: A Systematic Review

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ADMINISTRATIVE INFORMATION**Support** - Deanship of Scientific Research, Northern Border University.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202530042**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 March 2025 and was last updated on 11 March 2025.**INTRODUCTION**

Review question / Objective To critically evaluate and consolidate available evidence regarding the prevalence of ventilator-associated pneumonia among Intensive care unit patients throughout Saudi Arabia.

Condition being studied The ventilator-associated pneumonia (VAP) among intensive care unit (ICU) patients in Saudi Arabia.

METHODS

Participant or population Adult patients (≥ 18 years old) admitted to intensive care units (ICUs) in hospitals across Saudi Arabia.

Intervention Exposure: patients receiving mechanical ventilation during their ICU admission.

Comparator Not applicable.

Study designs to be included Observational studies (cohort studies, case-control studies, cross-sectional studies) and interventional studies (randomized controlled trials, non-randomized controlled trials) that report prevalence or incidence data of ventilator-associated pneumonia among adult patients receiving mechanical ventilation in intensive care units in Saudi Arabia.

Eligibility criteria Studies that included the pediatric population, did not explicitly report VAP prevalence/incidence, or were conducted outside Saudi Arabia were excluded.

Additionally, case reports, letters, editorials, reviews without original data, conference abstracts without full-text availability, and studies lacking sufficient data for extraction were excluded.

Information sources Four electronic databases: PubMed, Scopus, Web of Science, and Cochrane Library.

Main outcome(s) Outcome: studies reporting data on the occurrence, or prevalence /incidence of VAP among mechanically ventilated ICU patients.

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Quality assessment / Risk of bias analysis The "Risk Of Bias In Non-randomized Studies—of Interventions (ROBINS-I) assessment tool was applied.

Strategy of data synthesis Extracted data were synthesized narratively due to anticipated heterogeneity in study designs and outcome measurements among included studies. Prevalence estimates were summarized descriptively. Key findings related to preventive interventions/associated outcomes (e.g., morbidity, mortality) are presented narratively to provide comprehensive insights into VAP prevalence/management practices within Saudi Arabian ICUs.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction None.

Country(ies) involved Saudi Arabia.

Keywords Ventilator-associated pneumonia; Intensive care unit; Critically ill patients; Saudi Arabia; Systematic review.

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