

Evaluation of Disease Burden (Comorbidities, Length of Hospitalization and Healthcare Resource Utilization) from Respiratory Syncytial Virus (RSV) Illness in United Arab Emirates: A Retrospective Cohort Claims Database Study

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INTRODUCTION

- Globally, respiratory syncytial virus (RSV) is the most common cause of acute lower respiratory tract infection among children in the first years of life [1]. In 2019, 33 million episodes of RSV-associated lower respiratory tract infections occurred worldwide in children aged 0-60 months, resulting in 3.6 million hospital admissions and 26,300 deaths during hospitalization [2]
- In the United Arab Emirates (UAE), the proportion of RSV infection in infants under 2 years diagnosed with acute respiratory tract infections was 18.8% [3]

OBJECTIVE

- To describe epidemiology, comorbidities, and length of hospitalization, and to assess the healthcare resource utilization (HCRU) and cost, among children (<18 years of age) diagnosed with RSV, as captured in an insurance e-claims data source in Dubai, UAE

METHODS

- This is a retrospective cohort study, conducted from 01 January 2014 to 30 September 2023, using the Dubai Real-World Database (Figure 1). Patients aged ≤18 years, with a first-episode claim for RSV diagnosis (primary, secondary, or hospital admission) at any time during the index period (01 January 2014 to 30 June 2023) were analyzed
- The patients were age stratified into Cohort 1 (0-<2 years), Cohort 2 (2-<6 years), and Cohort 3 (6-<18 years)

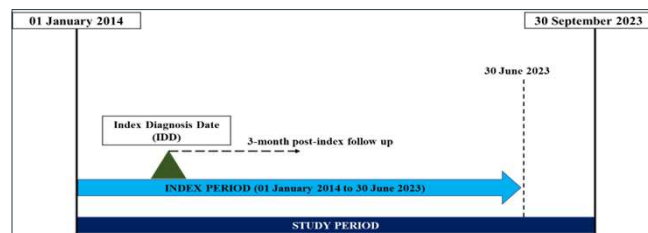


Figure 1: Overview of study design

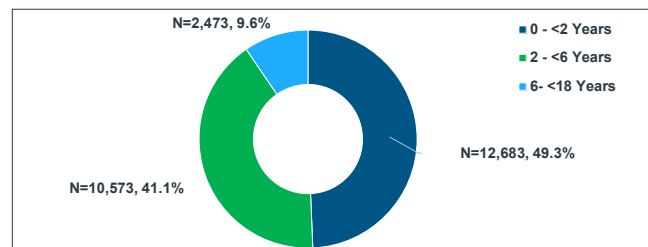


Figure 2: Patient demographics across the cohorts

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RESULTS

1. Demographic characteristics of RSV patients

Of 28,011 total patients with RSV, this study reviewed 25,729 patients aged ≤ 18 years, where nearly half (49.3%) of study patients belonged to the 0 - <2 years age group with mean age of 0.6 years (Figure 2).

2. Clinical diagnoses and comorbidities

In patients 0 - <2 years of age, respiratory tract infection diagnoses were distributed evenly across lower (39.4%) and upper (32.0%), while some were described as "other respiratory diseases" (44.4%) (Figure 3). Comorbidities included asthma (9.0%), congenital disorders (1.21%), immunodeficiency disorders (1.14%) and low birth weight (0.17%).

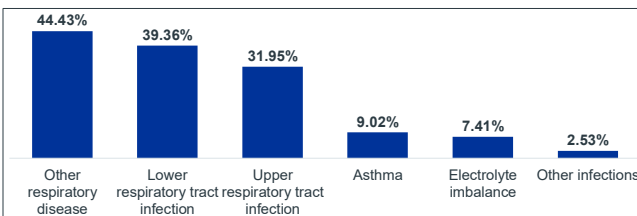


Figure 3: Most prevalent clinical diagnoses in patients with RSV in age range of 0 - <2 Years

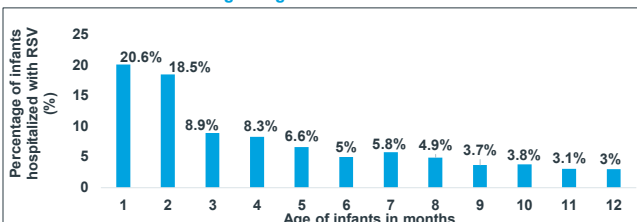


Figure 4: Distribution of RSV-associated hospitalization in infants by age in months

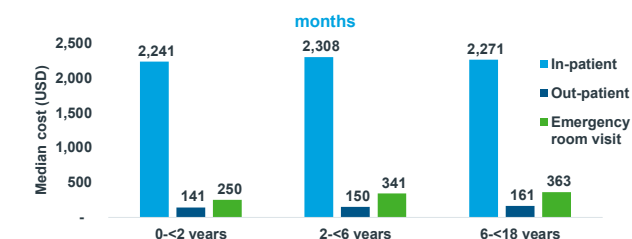


Figure 5: Disease-specific HCRU based on visit type

3. Length of hospitalization

During the 3-months post-index period, the average length of hospitalization was around 4 days, across all 3 age cohorts. Among infants, RSV-associated hospitalization rate was highest in ≤3 months of age patients (age 1 month: 20.6% [n=581], age 2 months: 18.5% [n=522] and age 3 months: 8.9% [252]) (Figure 4).

4. HCRU and cost based on visit and activity type

Across all the 3 age cohorts, during the 3-month post index period, median disease-specific costs due to inpatient visits was higher as compared to outpatient and emergency room costs (Figure 5). Disease-specific median cost for hospitalization was the major cost driver across all the three cohorts and was highest in the 2-6 years (0-<2 years: USD 2,241; 2-<6 years: USD 2,308; 6-<18 years: USD 2,271) (Figure 5). By activity type, costs incurred were greatest for procedures, followed by services, consumables, and drugs (Figure 6).

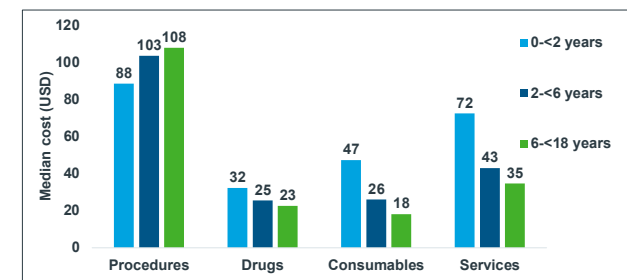


Figure 6: Disease-specific HCRU based on activity type

CONCLUSIONS

- Among ≤18 years old RSV patients evaluated in the claims data, 49% were ≤2 years of age, where diagnoses were distributed evenly across lower and upper respiratory tract, and <9% of ≤2 years of age patients had identified comorbidities commonly associated with RSV including asthma, congenital abnormalities, and immunodeficiency disorders.
- Among infants, RSV-associated hospitalization rate was highest in neonates and young infants below 3 months of age.
- There were substantial hospitalization costs in the three age cohorts; median hospitalization cost was highest in 2-<6 years (USD 2,308).
- These findings can help policymakers to better plan for the newly available preventive strategies in RSV.

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