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Title: Factors associated with compliance with palivizumab treatment in the Canadian rSV evaluation study for synagis (CARESS) registry (32005-2011)

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Body: Objective: Determine factors affecting compliance in palivizumab use. Methods: Registry of infants who received >1 dose of palivizumab during 6 RSV seasons. Demographic data collected at enrolment. Data on palivizumab utilization, compliance, and outcomes (respiratory illness - RI) collected monthly. Compliance interval between doses, and percentage of expected injections received. Results: 10,452 infants enrolled, 7492 (71.7%) complied with timing of doses. 91.9%±27.1% of expected injections received. Greater proportion of non-compliant infants were hospitalized for RI (7.5% versus 6.0%, p=0.005), compliance did not affect RSV-positive hospitalizations (1.79% versus 1.53%, p=0.177). Compliant infants (all [<0.05): were younger at enrolment (5.4±5.9 versus 5.9±6.1 months), had siblings (61.3% versus 58.5%), were a multiple (29.7% versus 27.2%), and had >5 household individuals (23.9% versus 21.7). More non-compliant infants had smoke exposure (30.5% versus 28.4%, p=0.033). Six factors influenced compliance in regression analysis: age (HR=0.989, 95%CI 0.982-0.996, p=0.002), siblings (HR=1.104, 95%CI 1.007-1.211, p=0.034), >5 household individuals (HR=1.114, 95%CI 1.001-1.241, p=0.047), smoke exposure (HR=0.891, 95%CI 0.811-0.980, p=0.018) and CHD (HR=0.805, 95%CI 0.700-0.927, p=0.002), and RI-related hospitalization (HR=0.837, 95%CI 0.705-0.903, p=0.041). Conclusions: Siblings and >5 household individuals is associated with increased treatment compliance; being older, smoke exposure, having CHD and being hospitalized with decreased compliance.