

**Frequency of pneumomediastinum and pneumothorax in COVID-19 patients: a retrospective cohort study in a community hospital in Evanston, IL**

PRESENTER  
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**BACKGROUND:**

Pulmonary barotrauma has been increasingly reported as a complication of COVID-19. Although a rare phenomenon, pneumomediastinum has been shown to be more prevalent in COVID-19 patients than in historical patients with adult respiratory distress syndrome.

**METHODS:**

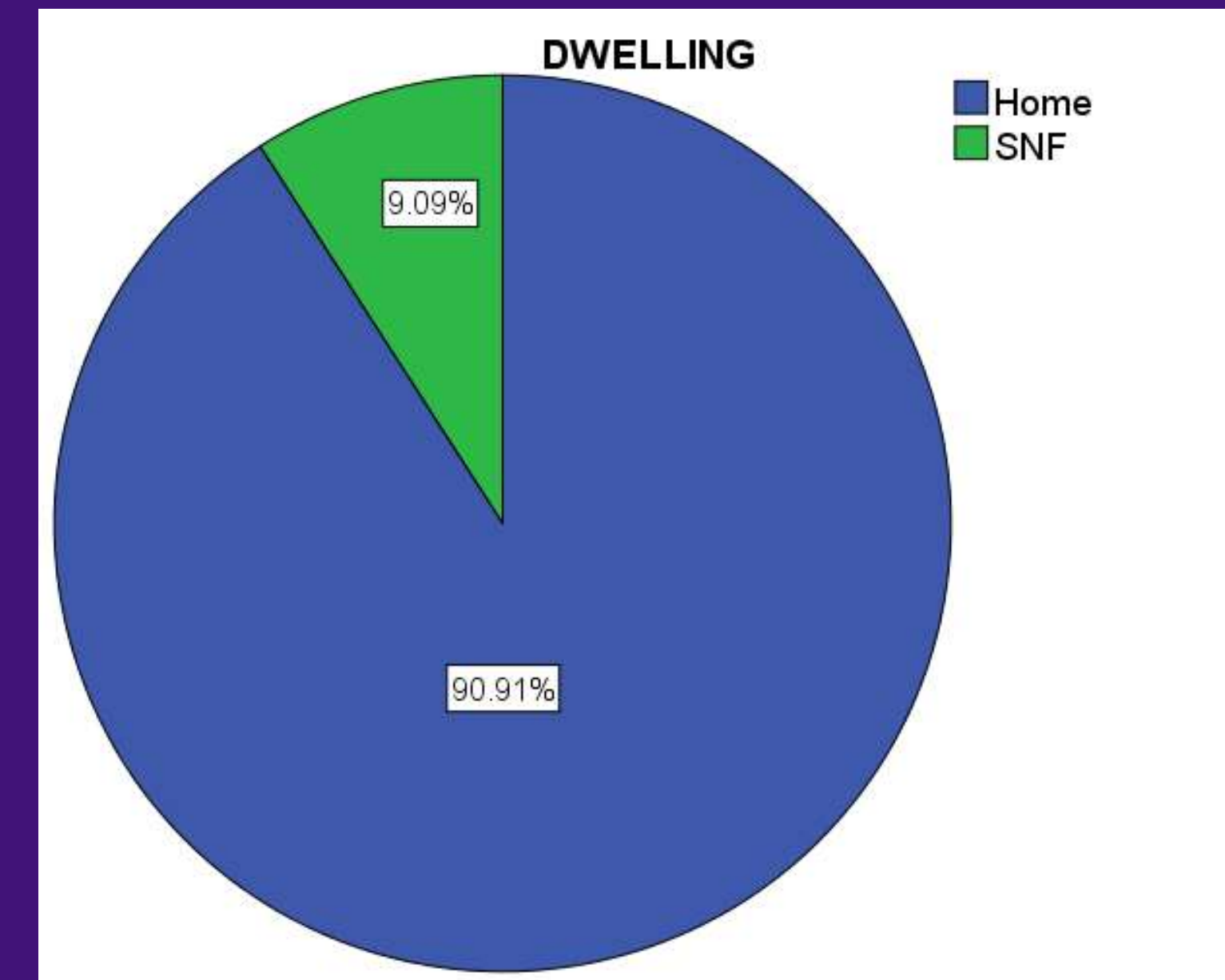
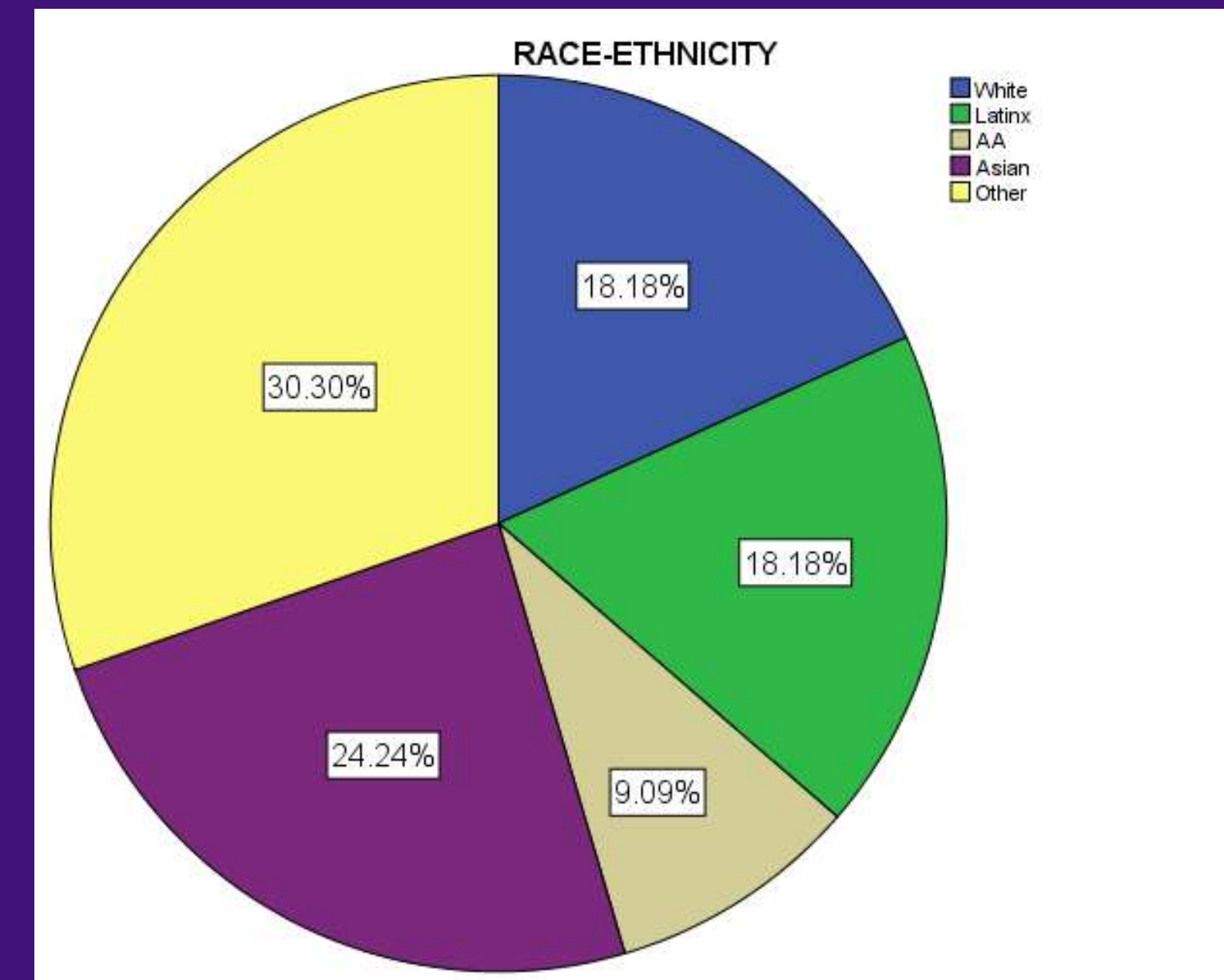
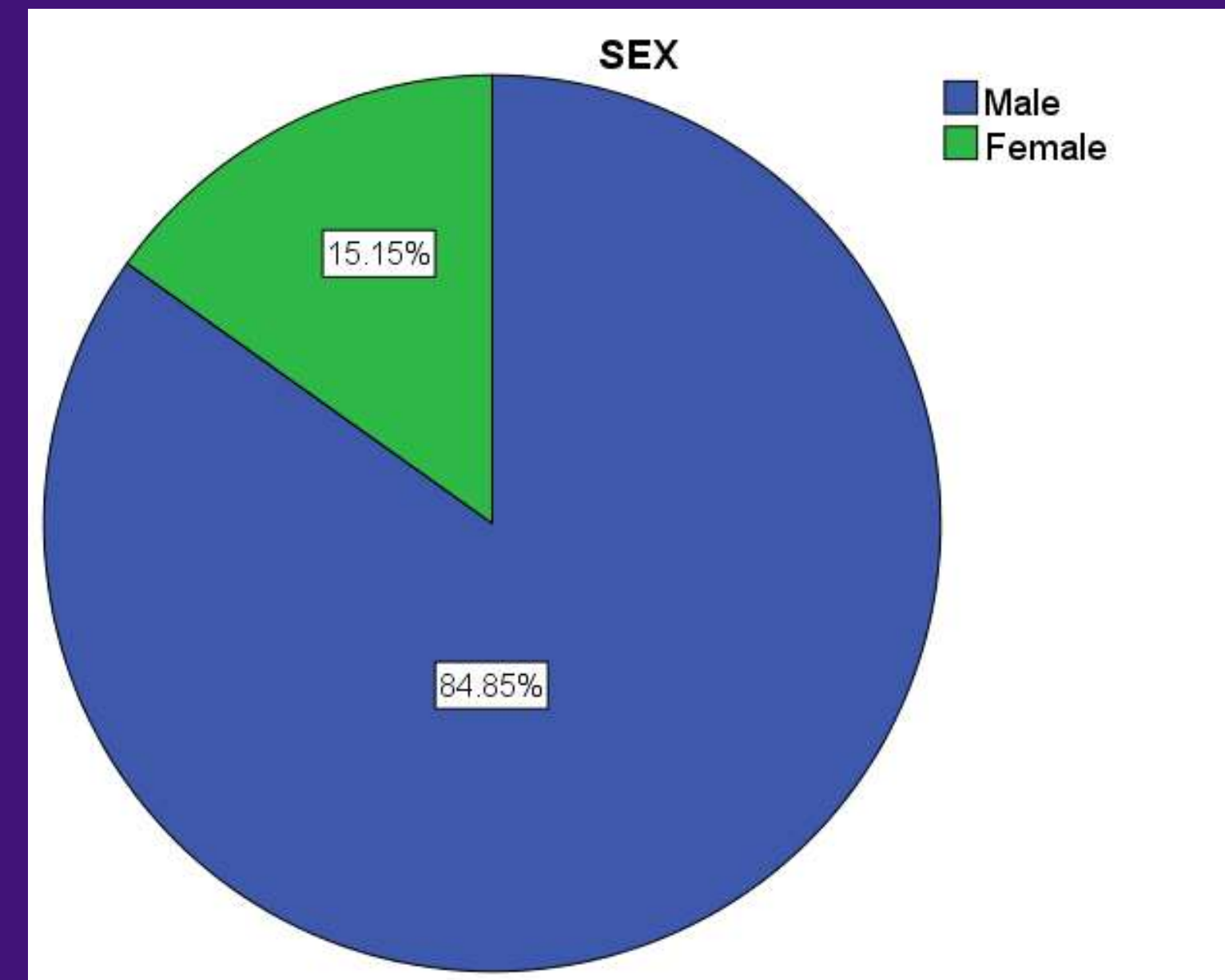
- Retrospective cohort study
- Community hospital
- 1046 patients admitted with COVID-19 between March 1, 2020, and January 31, 2022

**CLINICAL IMPLICATION:**

The practitioners should be aware of the association of COVID-19 with pneumomediastinum, especially on the fact that this complication may happen in patients who never received mechanical ventilation or positive airway pressure support. The incidence of PTX/PMD is probably higher in COVID-19 than in other viral infections.



**Incidence proportion**  
**COVID-19, 23 mos. (33/1046): 3.15%**  
**vs.**  
**Influenza, 9 years: (0/343) 0%**



**RESULTS:**

- The median age was 66 years (interquartile range [IQR], 49.5 – 75.5 years).
- 33 patients with pneumothorax or pneumomediastinum.
- Pneumothorax was present in 21 patients (63.6%): unilateral 18/21 (54.5%); bilateral 3/21 (9.1%). Pneumomediastinum was present in 22 patients (66.7%).
- The median onset time of pneumothorax or pneumomediastinum after COVID-19 onset was 18 days (IQR, 11.5 – 25.5 days).
- Among 28 (84.8%) patients that required invasive mechanical ventilation (IMV), 6 (18.2%) developed pneumothorax or pneumomediastinum prior IMV; 5 (15.2%) patients developed pneumothorax or pneumomediastinum without IMV.
- The **median onset time** of pneumothorax or pneumomediastinum **after IMV was 4 days** (IQR, 0 – 8 days).
- Only 4 (9.1%) patients were ultimately discharged, **24 (72.7%) died**, 2 (6.1%) were transitioned to hospice care, 3 (9.1%) were transferred to long-term care acute care, and 1 (3%) patient was transferred for ECMO.
- The fatality rate was higher **compared to case reports available in the literature (5/23, 21.7% fatality rate)**.
- 343 patients with influenza admitted to the hospital between 2011 and 2020 were reviewed, no cases of PTX/PMD were identified, even in those on IMV.

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