

COVID-19 Vaccine Related Adverse Events in Children Ages 5 to 17: A Study Report from the VAERS Database

INTRODUCTION

- Nearly 2 million COVID-19 cases have been reported in children between 5 and 11 years old.¹
- To prevent the spread of COVID-19 among children in schools and households, the CDC recommends that children 5 years and older receive COVID-19 vaccine series.¹
- As of January 31, 2022, the FDA has approved Pfizer/BioNTech COVID-19 vaccines for ages ≥ 16 and Moderna COVID-19 vaccine for ages ≥ 18. The FDA also authorized the emergency use of the Pfizer/BioNTech vaccines in children ≥ 5 years old and the Janssen vaccine in adults ≥ 18 years.²

OBJECTIVES

- Evaluating the side effects of COVID-19 vaccines and educating the public about the occurrence may dispel concerns and promote vaccination.
- This study summarizes the safety of COVID-19 vaccines approved in the U.S. for children between 5 and 17 years of age based on the reports of adverse events (AEs) from the Vaccine Adverse Event Reporting System (VAERS).³

METHODS

- An observational descriptive study was conducted by reviewing the reports of AEs related with the Pfizer/ BioNTech, Moderna, and Janssen vaccines reported in the VAERS database from January 1 to November 26, 2021.
- Age, gender, dose, and type of COVID-19 vaccine-related AE were extracted from the VAERS report, stratified into three age groups, and classified by manufacturer.
- A summary of the most frequently reported AEs as well as rare but serious adverse events (SAEs) such as myocarditis or pericarditis, anaphylaxis, and death is reported.

RESULTS

- A total of 687,402 AEs involving the COVID-19 vaccines were reported in the VAERS database during the study duration, of which 2.9% (19,935 cases) involved children between 5 and 17.
- Among SAEs, anaphylactic reactions occurred in 0.3% of reports, myocarditis or pericarditis in 0.09%, and death in 0.14% of children between 5 and 17 years old.

Figure 1. Three most common AEs by age group

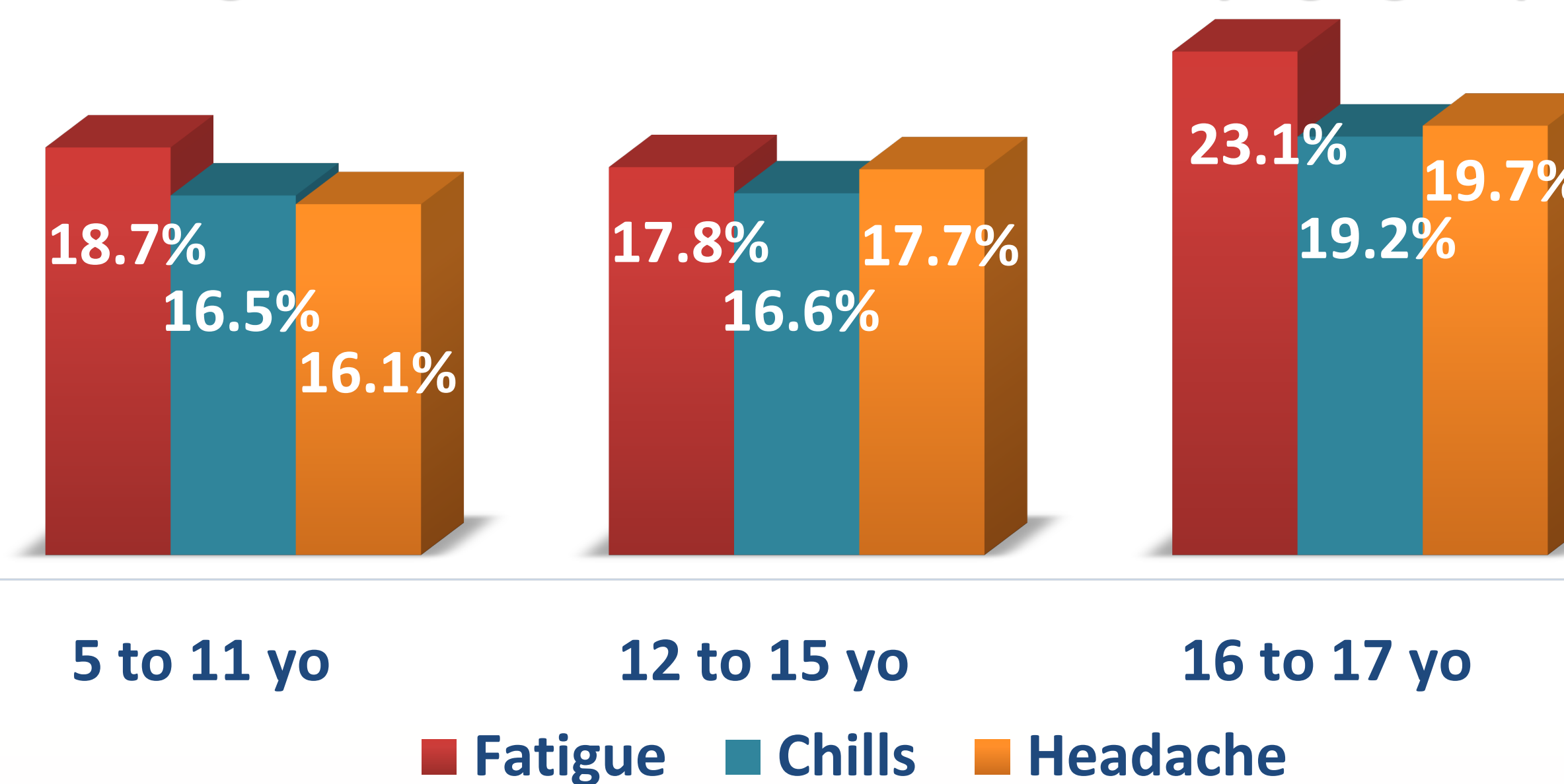
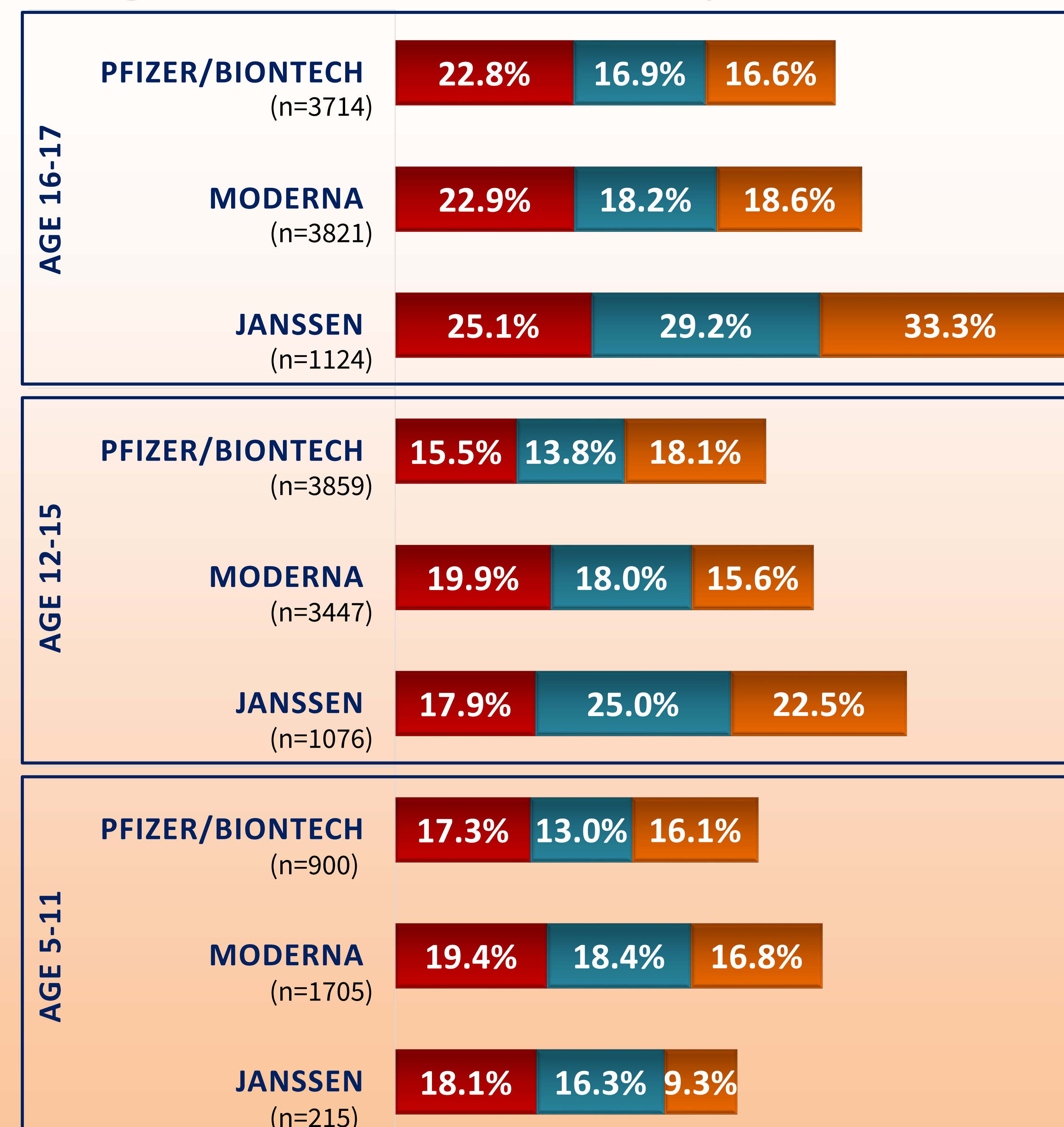


Figure 2. Three most common AEs by COVID-19 vaccine



- Fatigue, chills, and headache were the three most common AEs
- Fatigue was the most common AE among all age groups
- The age group of 16-17 years old had the highest rate of AEs

CONCLUSION

- The findings from the VAERS database provide a better understanding of the frequency of AEs associated with COVID-19 vaccines in children between 5 and 17 years of age.
- The most common AEs were relatively mild, and the rate of SAEs was low. All children ages 5 through 15 should receive the series of COVID-19 vaccines to reduce the risk of infection or hospitalization.

REFERENCES

- Centers for Disease Control and Prevention. COVID-19 Vaccines for Children and Teens information page. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/children-teens.html>
- VAERS. Vaccine Adverse Event Reporting System. VAERS Reporting Requirements for COVID-19 Vaccines. <https://vaers.hhs.gov/reportevent.html>
- VAERS. Vaccine Adverse Event Reporting System. <https://vaers.hhs.gov/about.html>

- All FDA-approved/authorized COVID-19 vaccines are relatively safe
- Children between 5 and 15 had relatively low rates of AEs compared to those between 16 and 17