Assessment of COVID-19 Clinical Features and Vaccination Campaign in Tlemcen, Algeria

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INTRODUCTION & AIM

The COVID-19 pandemic caused by SARS-CoV-2 has had a profound global impact on public health. This study aimed to evaluate both the clinical characteristics of COVID-19 cases and the efficacy of the vaccination campaign in Tlemcen, Algeria, in 2021. A retrospective analysis was conducted using data from the Public Health Establishment Near Tlemcen (EPSP), University Hospital of Tlemcen. The study included confirmed COVID-19 cases, with clinical evaluations involving PCR testing and chest CT imaging.

METHOD

Study Design
•Retrospective, descriptive analysis conducted in 2021.
•Location: Public Health Establishment Near Tlemcen (EPSP) and University Hospital of Tlemcen, Algeria.

Study Population
•Confirmed COVID-19 cases (n = 68,745).
•Confirmation by **PCR** and/or **Chest CT imaging**.

Clinical Assessment
•PCR results analyzed using **cycle threshold (Ct) values** (15–35).
•Chest CT scans reviewed for radiological patterns (e.g., ground-glass opacities, lung involvement).
•Symptom data collected (fever, cough, dyspnea).

Vaccination Campaign Evaluation
•Data on **five vaccine brands**: Sputnik, AstraZeneca, Sinopharm, Sinovac, and Janssen.
•Parameters assessed:
  • Distribution and uptake rates.
  • Wastage and expired doses.
  • Age- and comorbidity-specific trends.

Data Analysis
•Descriptive statistics for clinical and epidemiological features.
•Comparative evaluation of vaccine uptake and efficiency across demographic groups.

CONCLUSION

These findings provide essential insights into both COVID-19 clinical progression and vaccination dynamics in Tlemcen, contributing to future public health strategies aimed at controlling the spread and impact of COVID-19.

FUTURE WORK / REFERENCES

Zatla, I., Boublenza, L., Lemerini, W., Behar, D., Dahmani, B., Khouani, A., & Selka, N. (2025). Assessment of COVID-19 vaccination performance in Tlemcen: Insights into vaccine inventory management. *Microbes and Infectious Diseases*, 6(3), 1036-1043.

RESULTS & DISCUSSION

Among 68,745 confirmed cumulative number of cases, common symptoms included fever, cough, and shortness of breath, while PCR cycle threshold (Ct) values ranged from 15 to 35. CT scans revealed widespread lung involvement, with ground-glass opacities being a predominant feature. Epidemiological trends indicated a steady rise in cases, highlighting sustained transmission and underscoring the importance of diagnostic tools such as PCR and CT imaging in managing disease severity. Parallel to the clinical assessment, a comprehensive analysis of the vaccination campaign was conducted, focusing on vaccine distribution, uptake, and demographic trends. Data for five vaccine brands—Sputnik, AstraZeneca, Sinopharm, Sinovac, and Janssen—were analyzed to assess vaccine distribution efficiency, wastage rates, and demographic uptake patterns.

Sinovac emerged as the most widely administered vaccine, accounting for 91.94% of its imported doses, while Sputnik showed the lowest wastage rate, with minimal expired vaccines. Age-specific vaccination trends revealed higher Sinovac uptake among individuals aged 50-64 and 65+, and Janssen was favored by the 30-49 age group. Additionally, individuals with comorbidities showed a stronger vaccine response to Sinovac, suggesting the need for targeted vaccination strategies.

Table 1. Vaccine inventory at the University Hospital of Tlemcen.

Vaccines					
Vaccine Name	Imported vaccines	Administered vaccines	Lost vaccines	Expired vaccines	Remaining vaccines
Sputnik	7910	4352	819	2739	0
AstraZeneca	26100	9918	8576	7606	0
Sinopharm	5200	5192	8	0	0
Sinovac	102140	93908	3767	0	4465
Janssen	18605	5511	2534	9035	1525

Figure 1. A bar chart representing vaccination rate according to age groups.
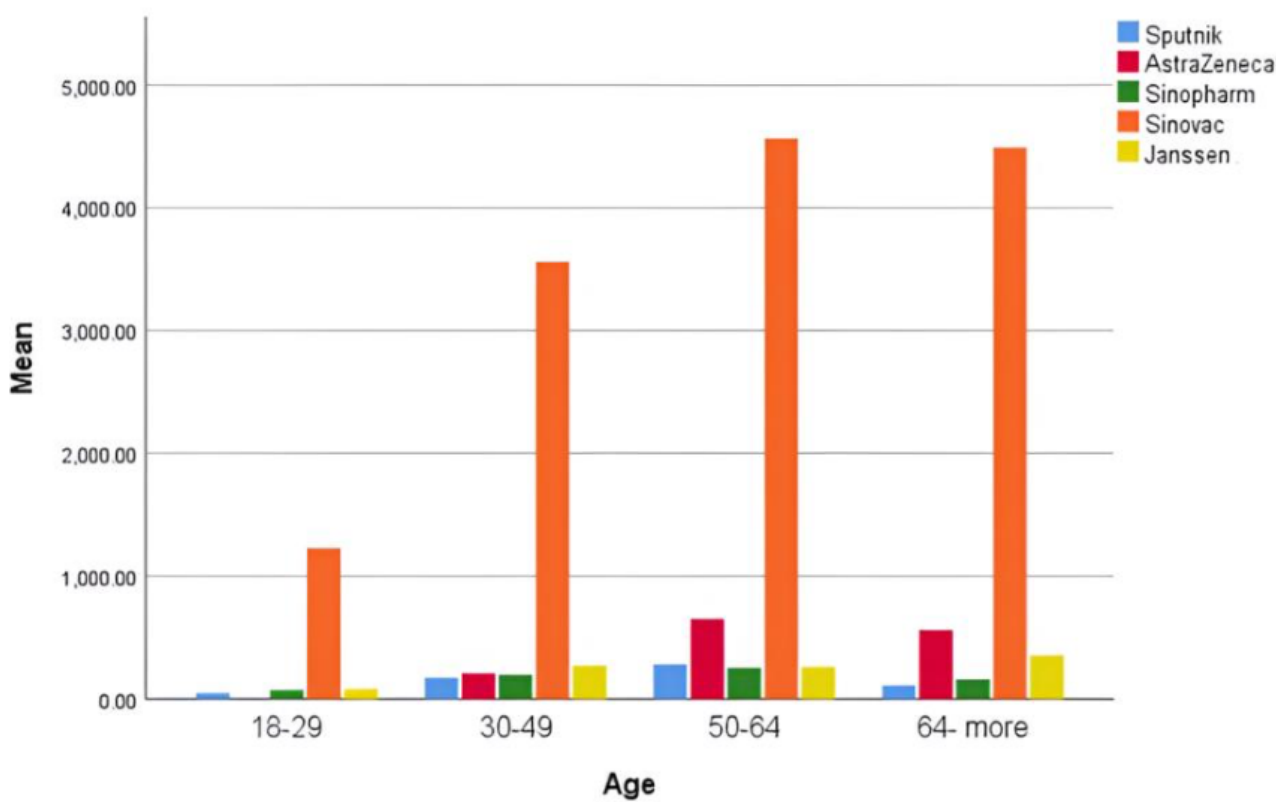

Figure 2. A bar chart representing vaccination rate among individuals with or without comorbidities