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## COVID-19 and vaccination: Specificities of inpatients in regional hospital in Tunisia

**Auteurs :** M.ali Ghezal, A. Mtira, Z. Sghaier, S. Chelly, O. Ezzi, A. Ammar, S. Rhimi, N. Omri, D. Ben Slimen, I. Mjendel, M. Rouiss, I. Ferchichi, M. Njah, M. Mahjoub

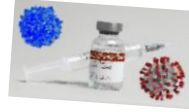
**Service:** Department of Hospital Hygiene, University Hospital of Farhat Hached, Sousse, Tunisia; Department of general medicine, regional hospital of M'saken, Sousse, Tunisia



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### Introduction:

Following the pandemic of COVID-19, the need to develop a vaccine was a health emergency to control the transmission of this virus that has had a huge impact worldwide. The vaccination campaign in Tunisia started in March 2021 with the establishment of a dedicated platform but the pace only accelerated from July 2021.



### Objective:

The objective of the study was to identify the vaccination status of patients hospitalized with Covid-19.

### Methods:

It was a retrospective study from March 2020 to August 2022, including all patients with confirmed COVID-19 infection admitted to the department of general medicine at Msaken Regional Hospital, Tunisia.

### Results:

- A total of 336 patients were included.
- Mean age was 64.48±15.06.
- Gender: sex ratio (M/F) at 1.08. (figure 1)

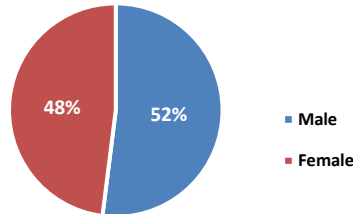


Figure 1: Patients' distribution by gender

- Two third (65.8%) had at least one comorbidity.
- Among them 14.3 % (N=48) were vaccinated.
- Majority of them (68.75%) received a Pfizer vaccine, followed by Sputnik (12.5%), CoronaVax (10.41%), then Johnson (4.16%) and AstraZeneca (4.16%). (figure 2)

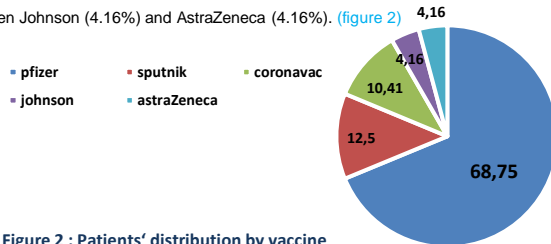


Figure 2 : Patients' distribution by vaccine

A little more than half of vaccinated patients (58.33%) was their first injection of vaccine, third was their second injection and only 4 received their third booster shot.

Mortality rate was higher in unvaccinated patients with 11.3% versus 6.3% in vaccinated ones but this difference was non-significant, p=0.29.

The severe forms were slightly higher in the unvaccinated patients (68.9% versus 62.5%, p=0.37).

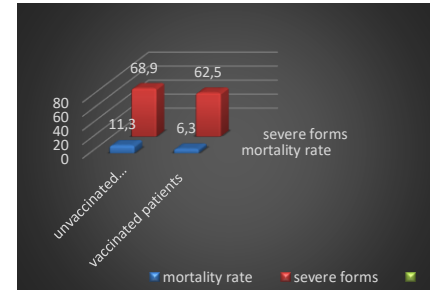


Figure 3: Association of mortality and form' severity with the vaccination status

A significant difference was found between vaccinated and unvaccinated subjects in the duration of hospitalization (4.77±3.36 versus 6.69±5.42; p=0.018). (Table I)

Table I: association of vaccination with the hospitalization' duration

	Unvaccinated subjects	Vaccinated subjects	P
Duration of hospitalization	6.69±5.42	4.77±3.36	0.018

### Discussion :

A systematic review and meta-analysis by Qiao Liu et al (1) Paddy and al (2) has concluded that SARS-CoV-2 vaccines have reassuring safety and could effectively reduce the death, severe cases, symptomatic cases, and infections resulting from SARS-CoV-2 across the world.

### Conclusion:

In the study, we observed a relatively small proportion of vaccinated patients hospitalized with COVID-19. There are many studies being conducted to investigate the efficiency and the second effects of the different types of vaccines.

### References :

- Liu Q, Qin C, Liu M, Liu J. Effectiveness and safety of SARS-CoV-2 vaccine in real-world studies: a systematic review and meta-analysis.
- Paddy Ssentongo # 1 2, Anna E Ssentongo # 3 4, Nawya Voleit 5, Destin Groff 6, Ashley Sun 6, Djibril M Ba 3, Jonathan Nunez 7, Leslie J Parent 8, Vernon M Chinchilli # 3, Catharine I Paules # 7 SARS-CoV-2 vaccine effectiveness against infection, symptomatic and severe COVID-19: a systematic review and meta-analysis