



Valutazione dello Status vaccinale per HBV in una popolazione migrante: esperienza clinica di un ambulatorio dedicato

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Background



- Migrants experience poorer health outcomes and higher vulnerability to infectious diseases.
- San Paolo Hospital operates a weekly open-access clinic for migrants, with ~300 new and ~2000 ongoing patients annually.
- The ECDC recommends screening new arrivals from high-prevalence countries for major infections (e.g., HIV, HBV, HCV, TB, schistosomiasis).

Aim of the study

Proactively screening all patients for:

- latent tuberculosis (IGRA)
- HIV (HIV Ab)
- HBV (HBsAg, HBcAb, HBsAb)
- HCV (HCV Ab)
- *T. pallidum* (TPHA, VDRL)

Proactively screening symptomatic patients for:

- *N. gonorrhoeae*, *C. trachomatis* (NAAT)
- *S. haematobium* (serology)

- Collect clinical and demographic data
- Assess retention in care among newly diagnosed patients
- Identify variables associated with new diagnoses and screening adherence

Results (1): Demographic data

Study Population Overview (09/23 – 03/25)

- **Tested patients:** 91 out of 113 enrolled (80.53%)
- **Gender distribution:** 71 males (62.8%), 42 females (38.2%)
- **Median age:** 40 years (IQR: 17–74)
- **Average length of stay in Italy** >5 years
- **Previous STD testing:** Only 13 patients (11.5%) had prior STD testing
- **Geographical origin:**
 - Africa: 52 patients (46.0%)
 - South America: 39 patients (34.5%)
 - Asia: 15 patients (13.3%)
 - Eastern Europe: 7 patients (6.2%)

Results (2): screening results for 91patients

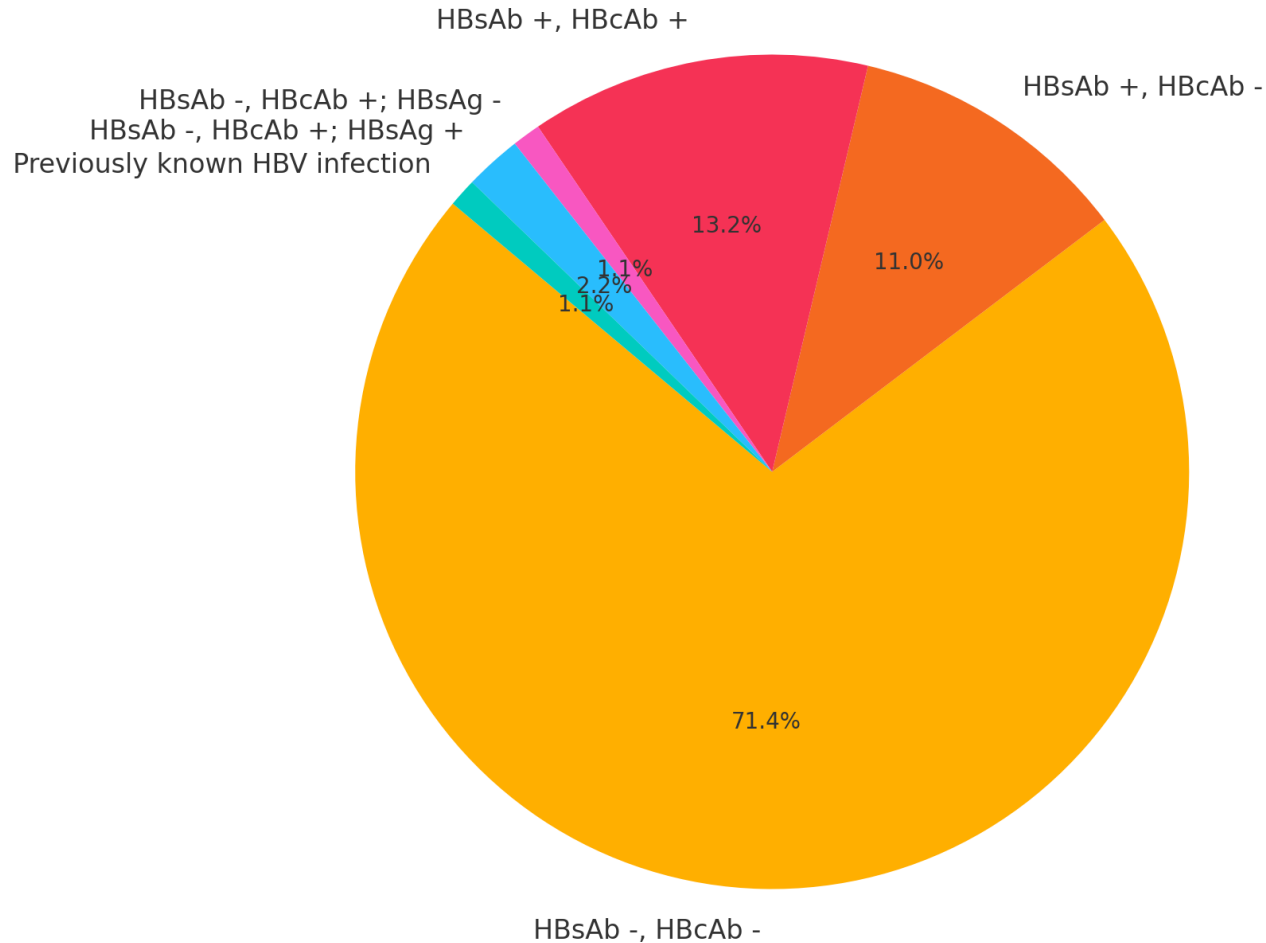
HIV		
HIV 1-2 Ab -	82	90.1%
HIV 1-2 Ab + new diagnosis	5	5.5%
HIV 1-2 Ab + previously known	4	4.4%
HBV		
HBsAb -, HBcAb -	65	71.42%
HBsAb +, HBcAb -	10	10.98%
HBsAb +, HBcAb +	12	13.18%
HBsAb -, HBcAb +; HBsAg -	1	1.09%
HBsAb -, HBcAb +; HBsAg +	2	2.2%
Previously know HBV infection	1	1.09%

HCV		
HCV Ab + new diagnosis	0	0%
HCV Ab + previously known	1	1.09%
HCV Ab -	85	93.40%
Undetermined	5	5.49%
Syphilis		
T. pallidum Ab + new diagnosis	5	6.59%
Previously treated lue	1	1.09%
T. pallidum Ab -	74	81.31%
Undetermined	11	12.08%
TB (Quantiferon)		
TB/LTBI first diagnosis	18	19.78%
Quantiferon -	37	40.65%
Quantiferon undetermined	5	5.49%
Previously treated TB	6	6.59%
Undetermined	25	27.47%

Patients Reporting Urinary Symptoms: 4

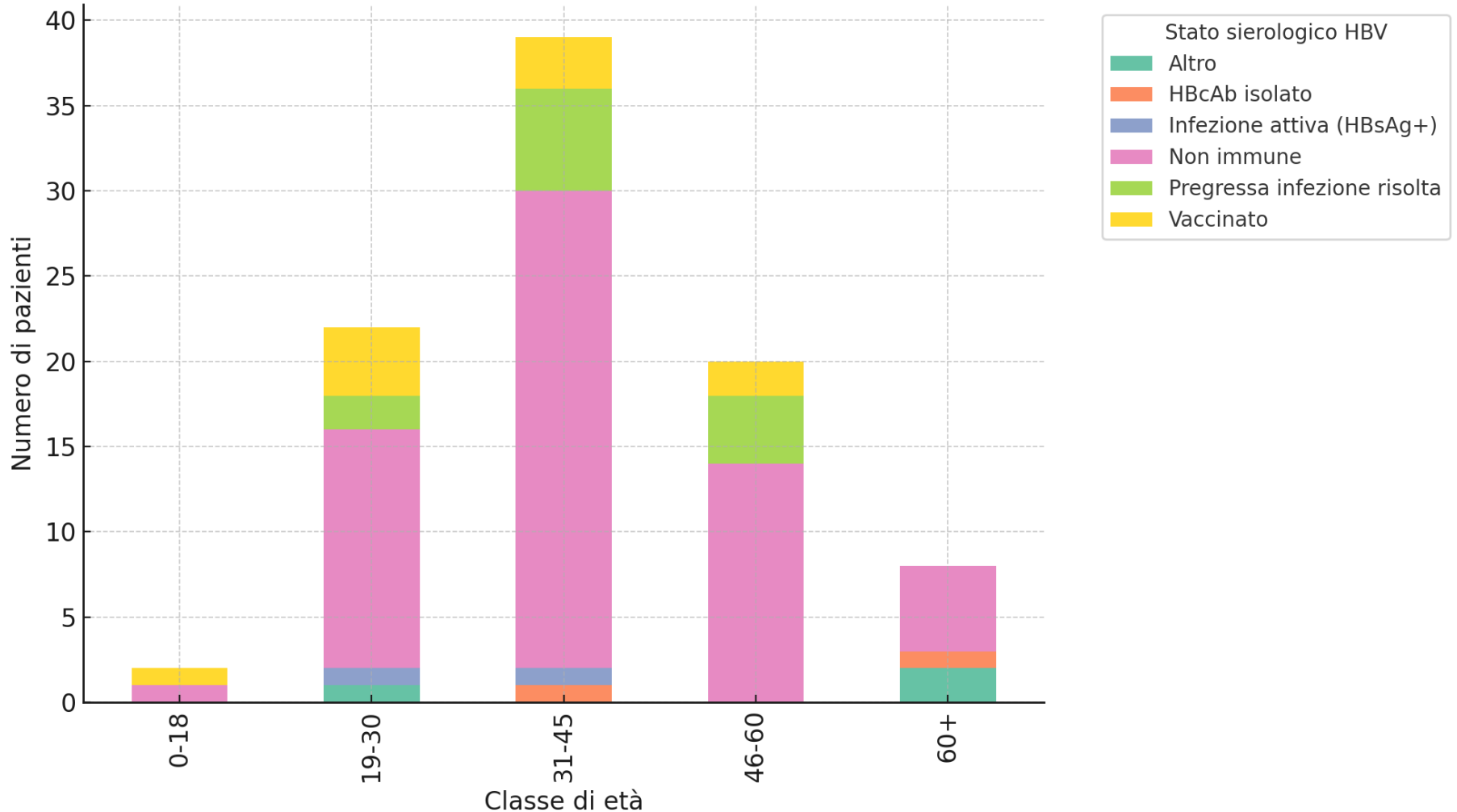
- NAAT Results for *N. gonorrhoeae* and *C. trachomatis*: 0
- Serology for Schistosomiasis (IgG) 3 3.29%

Results (3): HBV serological status



HBV serological status Vs age (1)

Distribuzione assoluta dello stato sierologico HBV per classe di età

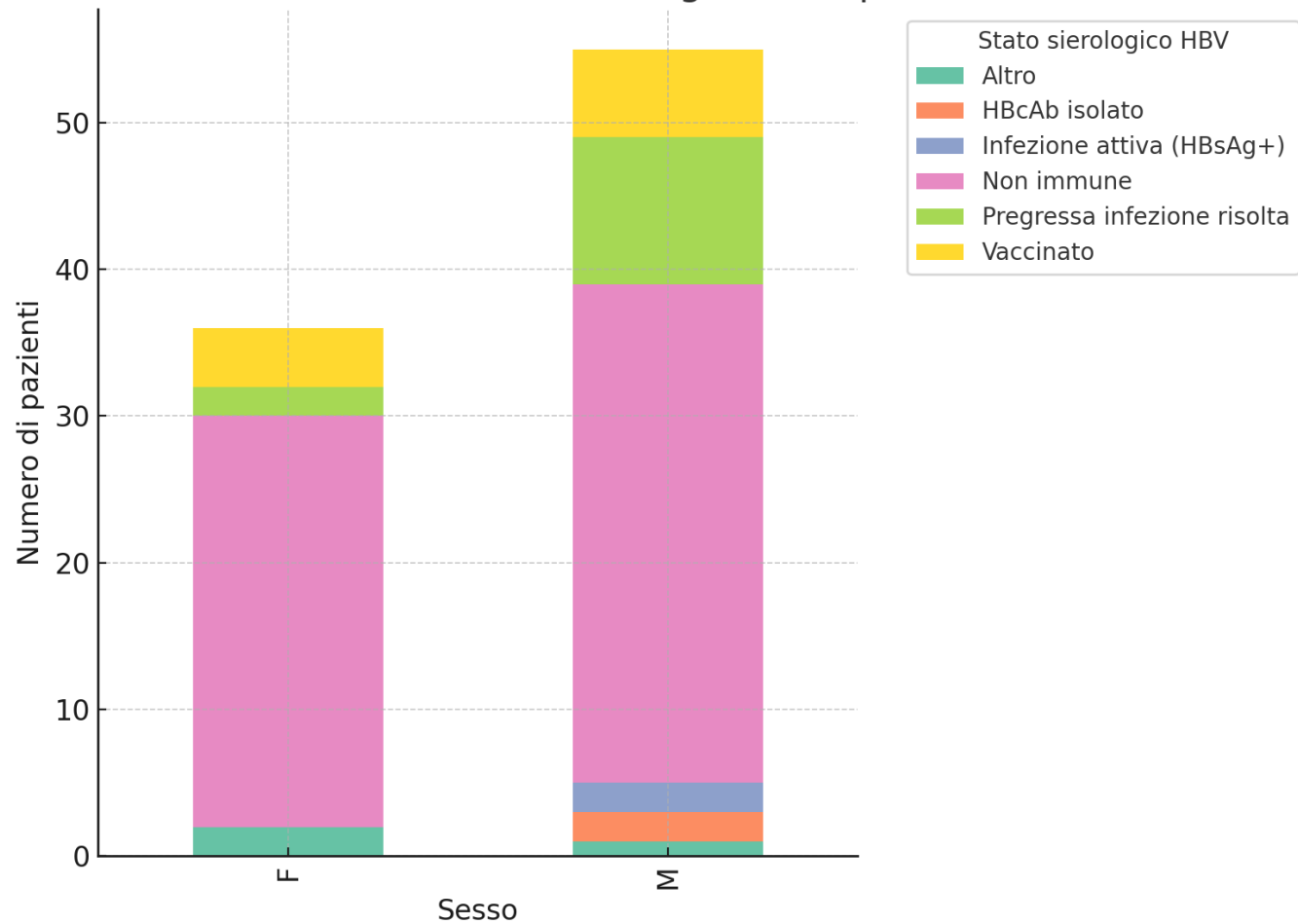


HBV serological status Vs age (3)

- The proportion of non-immune individuals is high across all age groups, but it is particularly prominent in the 19–30 and 31–45 age groups
- The proportion of vaccinated individuals is low in all age groups, highlighting a vaccination gap across the board.
- HBsAg+ cases (active infection) tend to cluster in younger adult age groups

HBV serological status Vs gender (1)

Distribuzione assoluta dello stato sierologico HBV per sesso



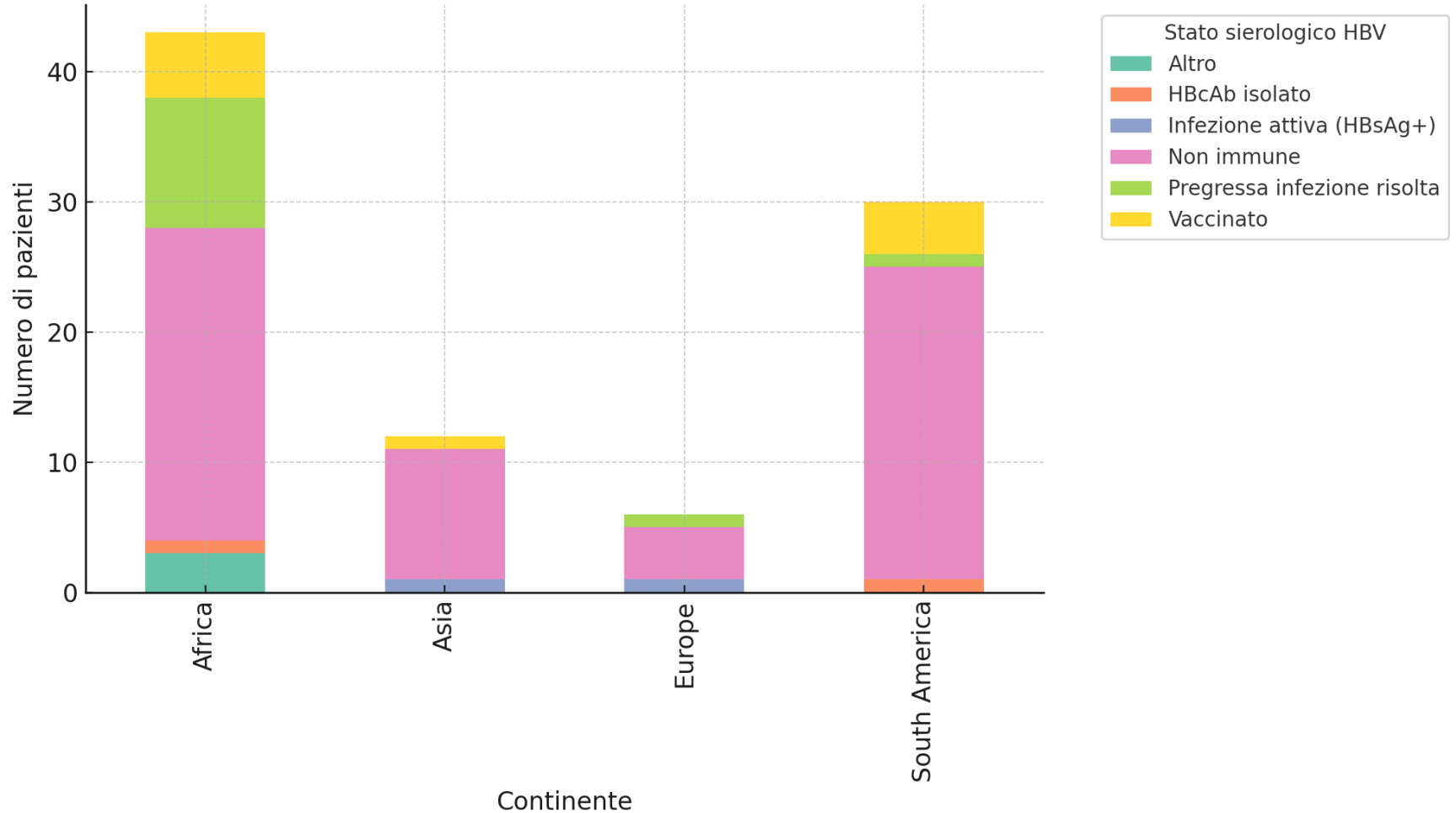
HBV serological status Vs gender (3)



- Among males, the non-immune status (HBsAb– / HBcAb–) is the predominant category, both in absolute numbers and percentage
- Active HBV infections (HBsAg+) were found only among male patients in this dataset
- The proportion of vaccinated males and females is very low, indicating limited prior access to HBV vaccination across both sexes

HBV serological status Vs continent of origin (1)

Distribuzione assoluta dello stato sierologico HBV per continente di origine



HBV serological status Vs continent of origin (3)

Africa:

- Largest group of migrants in the dataset
- The majority are non-immune (HBsAb– / HBcAb–)
- A noticeable proportion have evidence of past resolved infection
- Most active HBV infections (HBsAg+) are found among African migrants, although already confirmed

Asia:

- Highest number of non-immune individuals
- One active infection

South America:

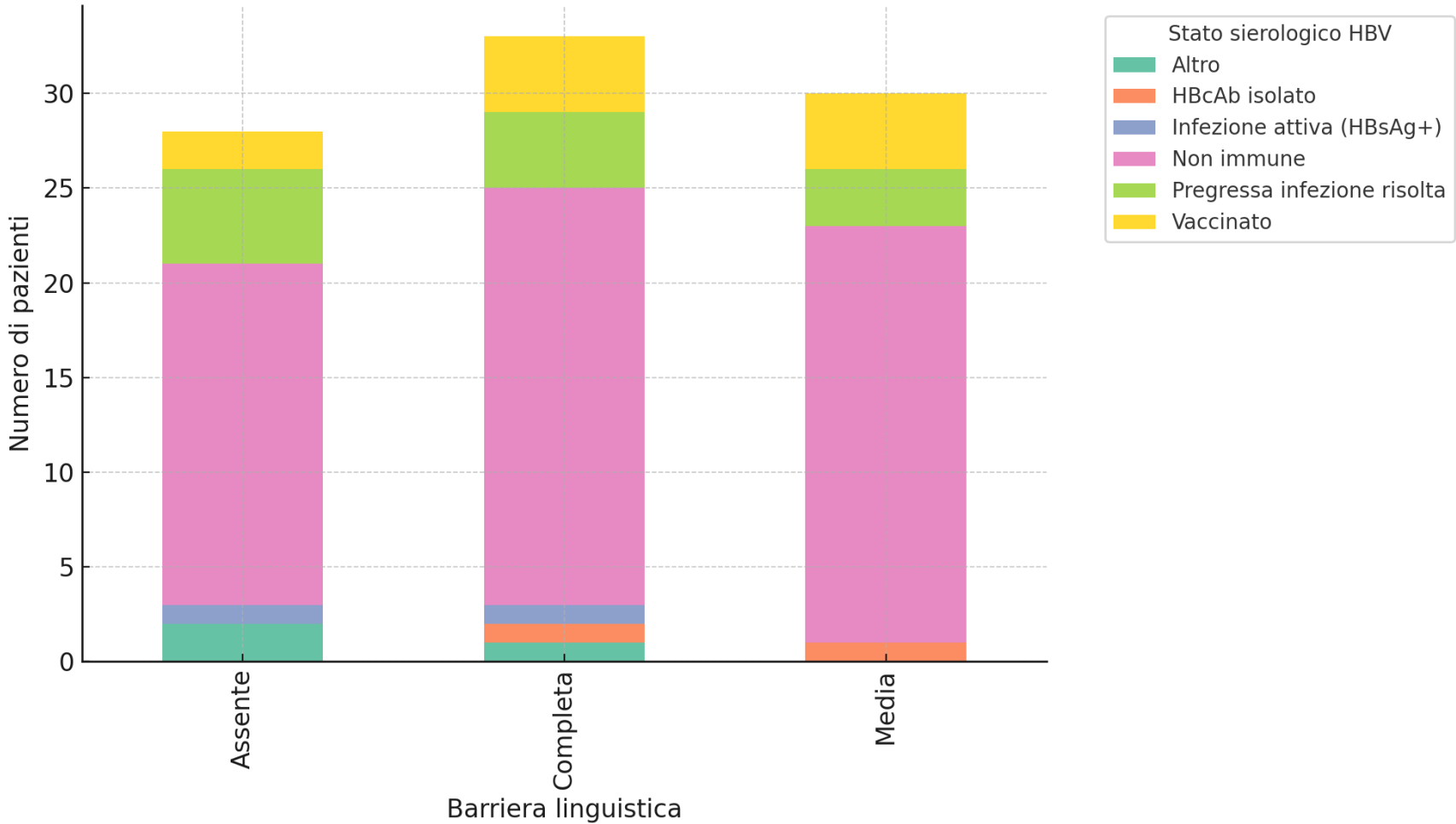
- Lower number of total cases, but highest percentage of vaccinations
- Very high proportion of non-immunized individuals (>80%)
- No active infections

Europe

- Most individuals are non-immune or vaccinated.
- One active infection

HBV serological status Vs language barrier (1)

Distribuzione assoluta dello stato sierologico HBV per barriera linguistica



HBV serological status Vs language barrier (3)



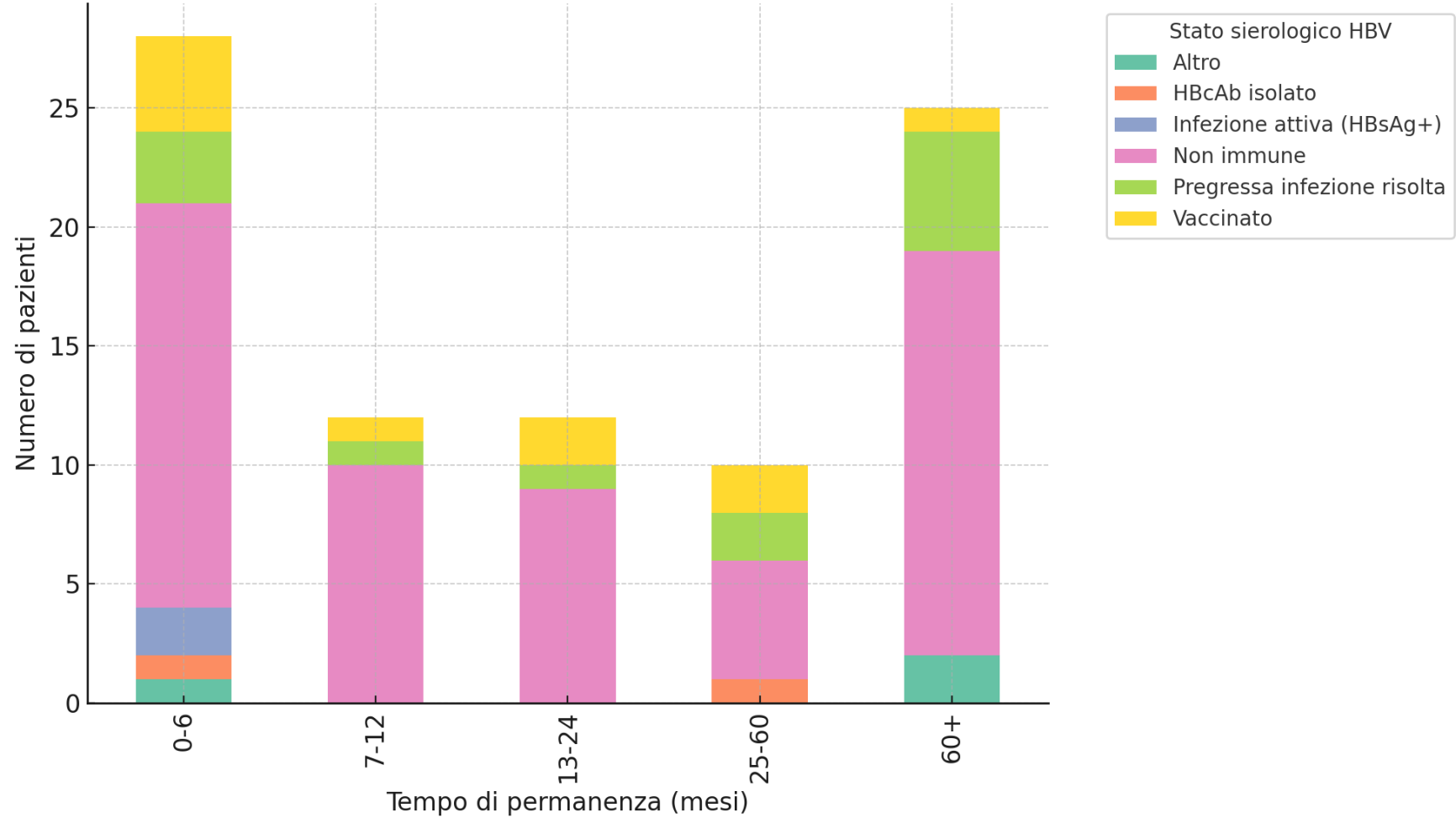
Among individuals with a complete language barrier:

- The vast majority are non-immune, underlining a possible link between limited communication and missed vaccination opportunities.
- A small but notable number of active infections (HBsAg+) were also found in this group.

Patients with a partial or absent language barrier show a slightly more diverse serological profile, including a higher proportion of vaccinated individuals or those with resolved infections.

HBV serological status Vs months of residence (1)

Distribuzione assoluta dello stato sierologico HBV per tempo di permanenza



HBV serological status Vs months of residence (3)

The largest subgroup consists of migrants who have been in Italy for less than 6 months.

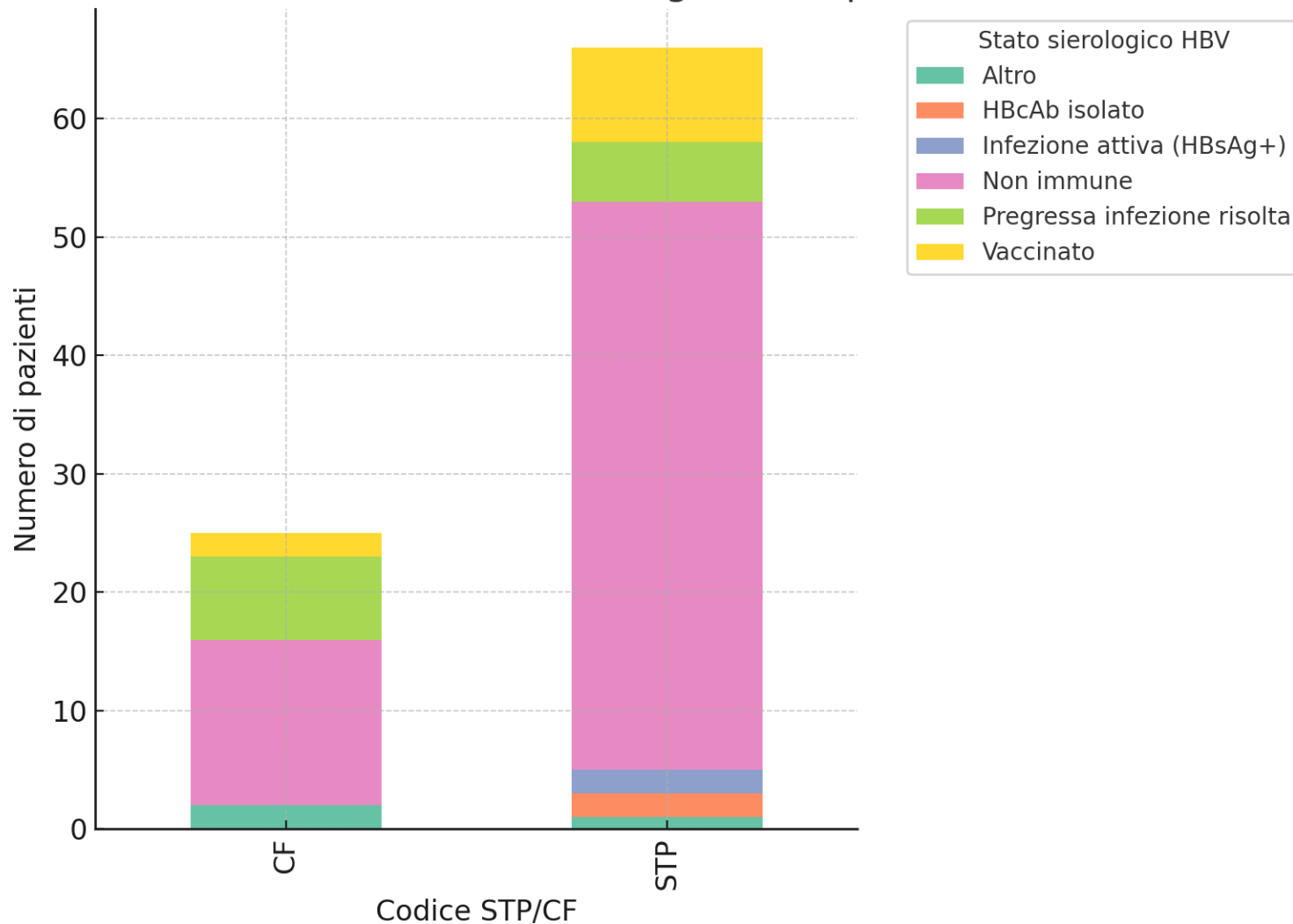
- Within this group, non-immunity predominates
- A few cases of active HBV infection were also found in this early-stage group

As time of stay increases, the proportion of vaccinated individuals and those with resolved infections slightly rises, until the last group where non immunity rises again, with the lowest percentage of non immune patients

Interestingly, non-immunity remains high across all time categories

HBV serological status Vs documentation (1)

Distribuzione assoluta dello stato sierologico HBV per STP/CF



HBV serological status Vs documentation (3)

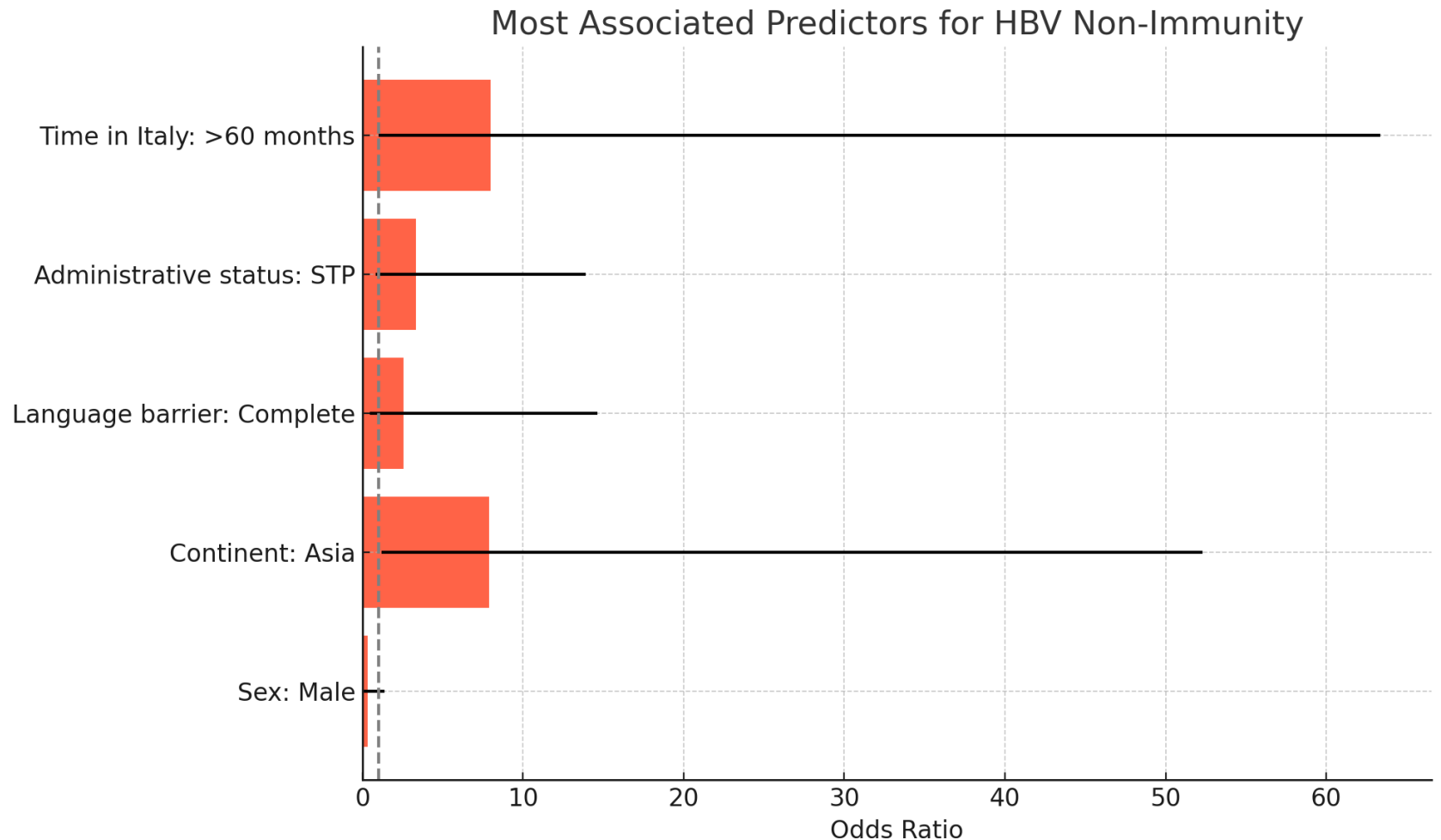
Among patients with **STP (Straniero Temporaneamente Presente)**:

- The non-immune status is highly prevalent
- The percentage of vaccinated or previously infected individuals is relatively low

Among patients with a **CF (Codice Fiscale)**:

- More balanced serological distribution:
- Higher proportions of vaccinated individuals or resolved infections,
- Still, a substantial number remain non-immune.

Predictors of HBV non-Immunity



Conclusions



- A large proportion of screened migrants are non-immune to HBV, indicating critical missed opportunities for prevention.
- Active HBV infections (HBsAg+) were identified exclusively among young adult males, primarily from high-endemic countries in Africa and Asia.
- Non-immunity is consistently high across all age groups and durations of stay, but is especially pronounced in those aged 19–45
- Non immunity is most prevalent in recent arrivals (<6 months) and long residences in the nation (> 5 years), who present lower vaccination rates; this might be due to recent improvements in vaccination campaigns in the countries of origin
- Communication barriers (particularly complete language barriers) and administrative status (STP) are associated with reduced access to vaccination, highlighting systemic obstacles to healthcare.
- The continent of origin, language proficiency, residency status, and length of stay all emerged as strong predictors of HBV non-immunity in the multivariate model.

Practical implications



- Universal and early HBV vaccination should be offered proactively, especially to high-risk groups identified by this analysis.
- Interventions must address linguistic and administrative barriers to ensure equitable access to prevention and care.
- A targeted, structured HBV screening and vaccination strategy for migrants is urgently needed to improve public health outcomes and reduce the burden of chronic hepatitis B.