CHARACTERISTICS OF THE COVID-19 EPIDEMIC IN THREE HUNGARIAN DISCTRICTS

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OBJECTIVES

The research aims to assess the characteristics of COVID-19 infection, vaccination, and mortality in the Bonyhád, Szekszárd, and Tolna districts based on socio-demographic variables.

METHODS

Descriptive, quantitative, retrospective research processed data from the Szekszárd-Tolna-Bonyhád districts in Hungary, between 01.03.2020 and 31.12.2022. Confirmed **COVID-19-positive individuals in the National Professional Information System-**Epidemiological subsystem were included (n=26,933). Collected data included gender, age, occupation, duration of illness, illness outcome, death, location of care, vaccination status, vaccine type, and reinfection. Besides descriptive statistical analysis, χ^2 test, Spearman correlation, and Mann-Whitney test were conducted (p<0.05) using SPSS **25.0 software.**

RESULTS

The average age was 44.45±20 years, with 56.2% female (15,144 individuals) and 43.8% male (11,789 individuals) in the sample. Of all cases, 55% were recorded in Szekszárd (14,811 individuals), 26.7% in Bonyhád (7,183 individuals), and 18.3% in Tolna (4,939 individuals) districts. The highest number of cases occurred in 2022 (14,091 individuals, 52.3%), followed by 2021 (9,717 individuals, 36.1%) and 2020 (3,125 individuals, 11.6%). Mortality was significantly higher among males (1,6%, 186 individuals) than females (1,1%, 174 individuals) (p<0.002). The median age of the deceased was 77 years, compared to 45 years for survivors (p<0.001). 48.5% of all cases received vaccination (12,167 individuals). Vaccination willingness was significantly higher among older individuals (median age: 49 years; not vaccinated: 40 years) and females (p<0.001); 7,117 individuals, 50.6%; males: 5,050 individuals, 45.8%). **Mortality among vaccinated individuals was significantly lower (75 individuals, 24.6%)** compared to non-vaccinated individuals (230 individuals, 75.4%) (p<0.001). **Reinfection occurred in 8.4% of cases (2,253 individuals).** CONCLUSIONS

The pandemic had impacted one-third of the entire population in the surveyed districts. The results highlight local characteristics of the spread and severity of the pandemic, providing valuable information for professionals working in the area.

■ female ■ male Figure 3. Gender distribution in 2020-2022 in the examined districts (n=26,933)

Figure 5. Mean days of care (n=25,180) and the number of mean days since *hospitalization (n=1190)*



Figure 1.

Relative frequency of cases per district based on the 2022 Central Statistics Office population and crude data (n=26,933)









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Figure 2. **Distribution of confirmed COVID-19 infected cases in 2020-2022** (n=26,933)



Figure 4.

Distribution of confirmed cases in the districts of Szekszárd, Tolnai, Bonyhád by 10-year age group in the period between March 1, 2020 and December 31, 2022 (n=26,932)

Figure 6.

Relative frequency of deaths per district based on the 2022 population of Central Statistics Office and crude data in 2020-2022 (n=360)

