NATIONAL PUBLIC
HEALTH ORGANIZATION

Department of Food-borne and Water-borne diseases

EPIDEMIOLOGICAL DATA FOR LISTERIOSIS IN GREECE

2004-2020

MANDATORY NOTIFICATION SYSTEM

Key points

- The notification rate of listeriosis in Greece is low. In 2015, an increase of the reported cases was observed following by a decreased rate the following years.
- Based on the data for the period 2004-2020:
  - The disease was more frequently reported in the age group ≥ 65 years old.
  - More than 50% of the notified cases were immunocompromised.
  - The case fatality rate was 23.6%.

Listeriosis is a foodborne disease caused by *Listeria monocytogenes*. The case fatality rate of listeriosis is high compared to other foodborne diseases. It mainly affects pregnant women, newborns, the elderly and immunocompromised adults [1]. *Listeria* usually causes sporadic cases, however in recent years large outbreaks of listeriosis have been identified [2-6].

Time trend

In total, 208 cases of listeriosis were reported in Greece from 2004 to 2020. The mean annual number of cases was 12.2 (standard deviation: 8.1) and the mean annual notification rate was 1.1 cases per 1,000,000 population. In 2015, an increased number of listeriosis cases were observed (3.04 cases/1,000,000 population). The number of notified cases and notification rates for the years 2004-2020 are presented in **Table 1**. The incidence of listeriosis by year is depicted in **Graph 1.**

Age and gender distribution

For the period 2004-2020, the highest mean annual notification rate of the disease regarded the age group of ≥ 65 years old (3.2/1,000,000 population) followed by the age group of 0-4 years old (1.4/1,000,000 population). During the same period, the mean annual notification rate was 1.3 cases/1,000,000 population for males and 1 case/1,000,000 population for females. The notification rate of the disease by gender and age group (0-4, 5-14, 15-24, 25-44, 45-64, 65+ years) is depicted in **Graph 2**.

Seasonality

The mean monthly notification rate of the disease for 2004-2020 increased during spring, with a peak in March and gradually decreased in the following months presenting a second peak in August (**Graph 3**).

Geographical distribution

The geographical region of Attica had the highest mean annual notification rate for 2004-2020 (1.6/1,000,000 population), and Central Greece (1/1,000,000 population), Aegean islands/Crete (0.9/1,000,000 population) and Northern Greece (0.6/1,000,000 population) the lowest.

Risk factors/Outcome

One hundred and nine (52.6%) of the overall reported listeriosis cases, were immunocompromised, 8 (3.9%) were pregnant and 5 (2.4%) were newborns. Two (1%) cases of miscarriage and 1 (0.5%) case of premature birth were reported. Among cases with known outcome (n=191), 45 (23.6%) deaths were recorded.

Conclusion

The notification rate of listeriosis is low in Greece (1.9 case per 1,000,000 population for the year 2020). The mean notification rate in the EU and EEA/EFTA countries was 4.6 cases per 1,000,000 population for the year 2019 [7]. When interpreting this difference, the surveillance systems' probable under-reporting should be considered. The age distribution, the high percentage of immunocompromised people among cases, the high case fatality, and the observed increase in the year 2015 are findings compatible with those of other European countries [8].

The observed increase in 2015 has reinforced the collaboration of the involved public health authorities. The aim of the collaboration is the timely detection of cases/outbreaks of listeriosis and the protection of the immunocompromised population and pregnant women [9] by taking the appropriate public health measures.

References

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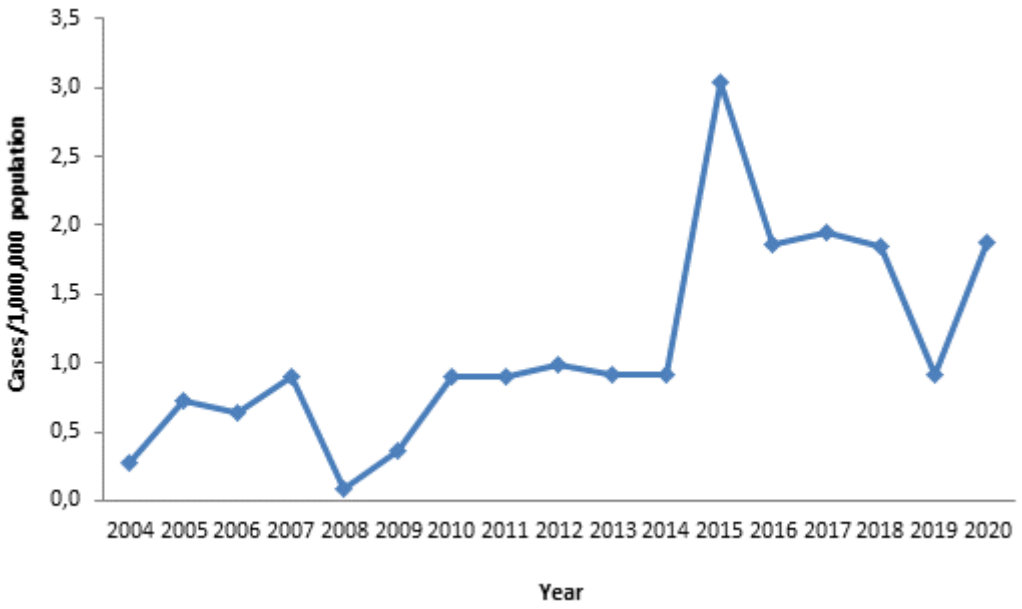
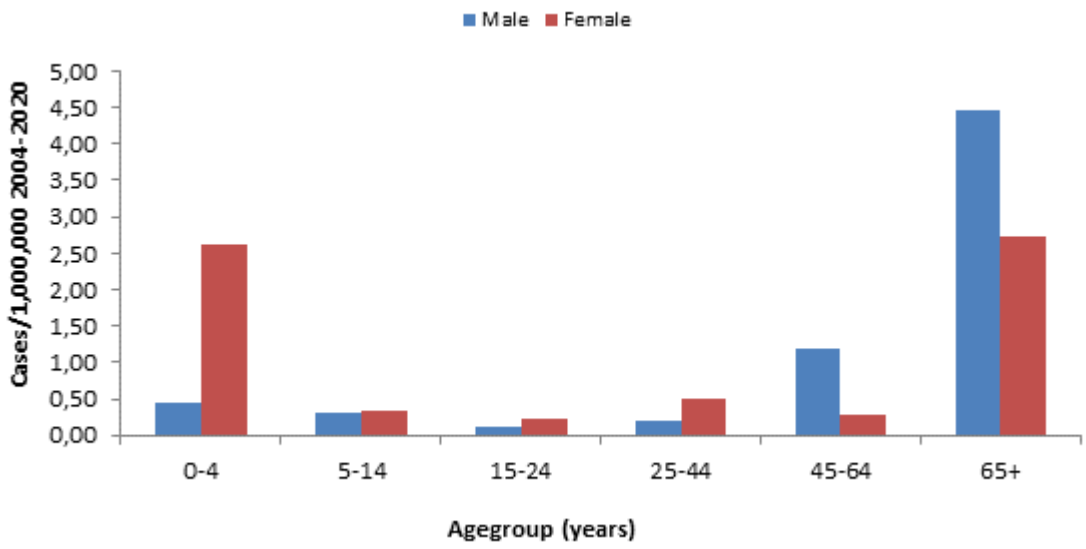
Table 1. Annual number of notified cases and notification rate of listeriosis in Greece, Mandatory Notification System, 2004-2020.

Year	Number of cases	Annual notification rate (per 1,000,000 population)
2004	3	0.3
2005	8	0.7
2006	7	0.6
2007	10	0.9
2008	1	0.1
2009	4	0.4
2010	10	0.9
2011	10	0.9
2012	11	1.0
2013	10	0.9
2014	10	0.9
2015	35	3.2
2016	20	1.8
2017	21	1.9
2018	20	1.8
2019	10	0.9
2020	20	1.9
Total	**208**	**1.1***

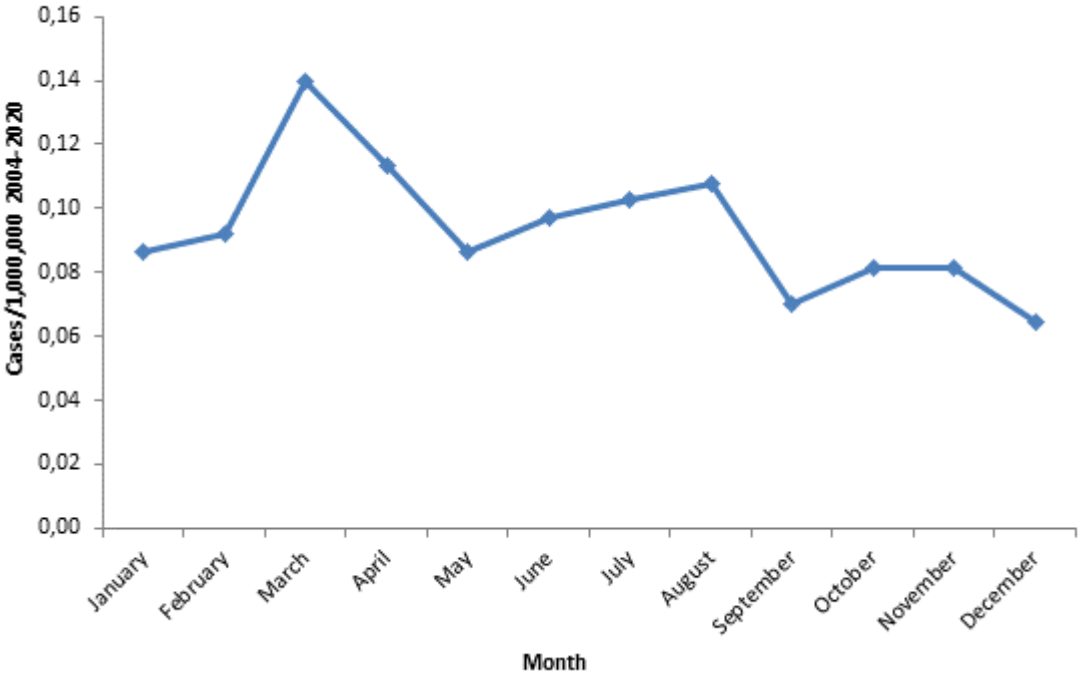
*Mean annual notification rate for the period 2004-2020



Graph 1. Annual notification rate of listeriosis in Greece (number of cases per 1,000,000 population), Mandatory Notification System, 2004-2020.



Graph 2. Notification rate of listeriosis by age group and gender in Greece, Mandatory Notification System, 2004-2020.



Graph 3. Mean monthly notification rate of listeriosis (cases/1,000,000 population) in Greece, Mandatory Notification System, 2004-2020.

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