



EPIDEMIOLOGICAL DATA FOR BOTULISM IN GREECE, 2004-2025

MANDATORY NOTIFICATION SYSTEM

Botulism is a rare but serious paralytic illness caused by a neurotoxin produced by the bacterium *Clostridium botulinum* and sometimes by strains of *Clostridium butyricum* and *Clostridium baratii*. There are six types of botulism: a) foodborne botulism (caused by the consumption of foods that contain the botulinum toxin), b) infant botulism (caused by ingested spores which germinate in the infant intestine and produce bacteria that release toxin), c) adult intestinal toxemia botulism (same cause as the infant botulism), d) wound botulism (caused by toxin produced from a wound infected with *Clostridium botulinum*), e) iatrogenic botulism (result of accidental injection of the botulism neurotoxin into the systemic circulation of a patient instead of the intended therapeutic locus), f) inhalation botulism (result of inhalation of aerosolized botulism neurotoxin) [1].

The typical symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty in swallowing, dry mouth, and muscle weakness. Infants with botulism appear lethargic, feed poorly, are constipated, and have a weak cry and poor muscle tone. These are all symptoms of the muscle paralysis caused by the bacterial toxin. If untreated, these symptoms may progress to cause paralysis of the respiratory muscles, arms, legs, and trunk [2].

Time trend

Botulism is one of the less frequently reported diseases of the mandatory notification system in Greece. During the period 2004-2025 the following were reported: a) one confirmed case in 2009 regarding a 3.5-month old infant, resident of the Peloponnese region, b) two confirmed cases in 2017 regarding 3 and 2-month old male infants, residents of the Attica and Peloponnese regions, respectively, c) one suspected case in 2017 regarding

a 59 years old, female, resident of Central Macedonia, d) a domestic cluster of two confirmed cases in 2022, in the Peloponnese region, regarding a male and a female, 63 and 62 years old respectively and e) one confirmed case in 2024 regarding a female neonate, resident of the Peloponnese region.

Conclusion

The mean annual notification rate in European Union/European Economic Area (without UK) countries was low, according to the latest published data in 2023 (0.2 cases per 1,000,000 population) [3]. The low number of reported cases of botulism in Greece does not allow comparisons with the data from other European countries.

References

[1] Heymann DL. Control of Communicable Diseases Manual. 21st Edition, 2022. Washington DC: American Public Health Association.

[2] Centers for Disease Control and Prevention (CDC). Botulism. Available from: <https://www.cdc.gov/botulism/definition.html>

[3] European Centre for Disease Prevention and Control. Surveillance Atlas of Infectious Diseases. Botulism - Data by Country and Year. Current time period: 2023. Available from: <https://atlas.ecdc.europa.eu/public/index.aspx>

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