



Department of Epidemiological Surveillance and Intervention

EPIDEMIOLOGICAL DATA FOR HEPATITIS A IN GREECE, 2004-2017

(MANDATORY NOTIFICATION SYSTEM)

Main points

- The notification rate of hepatitis A has been stable in the last years with the exception of 2007 and 2013 that outbreaks were recorded in Roma populations, 2016 that outbreaks occurred in the population of refugees/migrants and 2017 that outbreaks occurred among men having sex with men, aged 25 to 44 years old.
- Based on the data for the period 2004-2017:
 - 26% of the notified cases were Roma; 88.9% of them were aged < 15 years
 - 13.6% reported travelling abroad within the incubation period
 - 20.4% were refugees/migrants

Hepatitis A is an acute, self-limited disease of the liver, which is caused by the hepatitis A virus (HAV). HAV has been classified as a member of the Picornaviridae family [1,2]. In Greece, hepatitis A is a mandatory notifiable disease.

Time trend

During the period 2004-2017, 1798 cases of hepatitis A were reported. The mean annual number of reported cases was 128.4 (standard deviation: 80.55). The mean annual notification rate was 1.17 cases per 100,000 population. The annual number of reported cases and the temporal distribution of hepatitis A notification rate for the period 2004-2017 are depicted in **Table 1** and **Graph 1**, respectively.

Age and gender distribution

For the 2004-2017 period, the highest notification rate of the disease was recorded for children under 15 years of age. The mean annual notification rate was 3.9 and 3.3 cases per 100,000 population in the age groups of 0-4 and 5-14 years old, respectively. For the same

period, difference was noted in the disease's gender distribution (61% of the reported cases were male), while the mean annual notification rate was 1.46 cases per 100,000 population in males and 0.90/100,000 in females. The notification rate of hepatitis A by gender and age group (0-4, 5-14, 15-24, 25-44, 45-64, 65+ έτη) is depicted in **Graph 2**.

Furthermore, in 2017 the annual notification rate of hepatitis A was significantly differ between males and females aged 25 to 44 years old: 10.22 cases/100,000 population in males and 1.74/100,000 in females.

Geographical distribution

For the period 2004-2017, the highest mean annual notification rate was reported in the geographical area of Eastern Macedonia-Thrace (3.94 cases per 100,000 population) and the lowest in the geographical area of Western Macedonia (0.28 cases per 100,000 population).

Seasonal distribution

The mean monthly notification rate for the period 2004-2017 is depicted in **Graph 3**. Reported cases of hepatitis A were unevenly distributed during the year presenting a marked seasonality with the highest number reported during autumn and winter (August to February).

Risk factors

For the 2004-2017 period, 526 (30.6%) of the notified cases of hepatitis A reported the presence of another person with similar symptoms among their contacts. Two hundred and eighteen (13.6%) of the reported cases had travelled abroad within the incubation period of the disease. Fifty four (3.4%) cases reported that they had been vaccinated against hepatitis A. Among the 39 cases, for which the respective information was available, 32 (82%) reported they had been vaccinated with a single dose of the vaccine in the past.

Four hundred and forty five (26%) of the reported cases were Roma and 367 (20.4%) were refugees/migrants. Regarding the age distribution, 88.9% of Roma cases and 73.2% of refugees/migrants cases were children < 15 years old, while in the general population*, only 13.5% belonged to this age group (**Graph 4**).

Conclusion

* Population after subtracting migrants, refugees, travelers, and the Roma population

The mean annual notification rate of hepatitis A in Greece is low. According to the latest reported data of the European Centre for Disease Prevention and Control, the mean notification rate reported by the EU and EEA/EFTA countries was 2.41 cases per 100,000 population for the year 2016 [3]. When interpreting this difference, the surveillance systems' probable under-reporting should be taken into account. In 2007, a hepatitis A outbreak occurred in Greece with the majority of cases in the population of Roma, while in 2013 three outbreaks were recorded in this population again [4]. In 2016, the majority of reported cases (88.8%) concerned the population of refugees/migrants who remain in our country after the closure of the borders with FYROM in April 2016. In 2017, an increase in notification rate of hepatitis A reported was observed in European level among men who have sex with men (MSM). This finding is in accordance with the increase noted also in Greece among men aged 25 to 44 years old, while in the context of investigating the reported cases, 45.3% of the cases were MSM [5]. Hepatitis A is still a childhood disease among Roma and refugees/migrants, while in the general population it mainly occurs among susceptible adults. Hepatitis A continues to be a public health concern in Greece. This fact stresses the need for educating the general population regarding the disease's modes of transmission, and for monitoring and improving the vaccination coverage of the high risk groups.

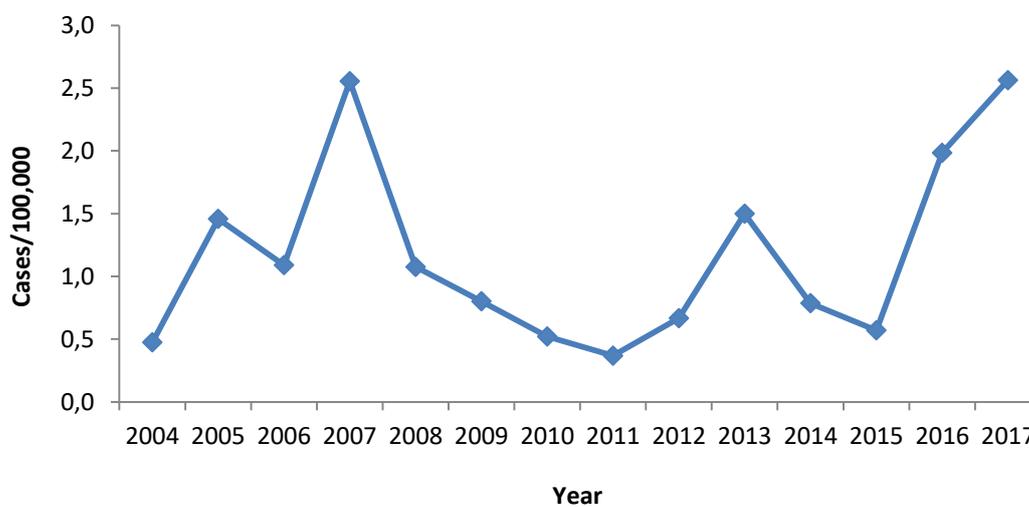
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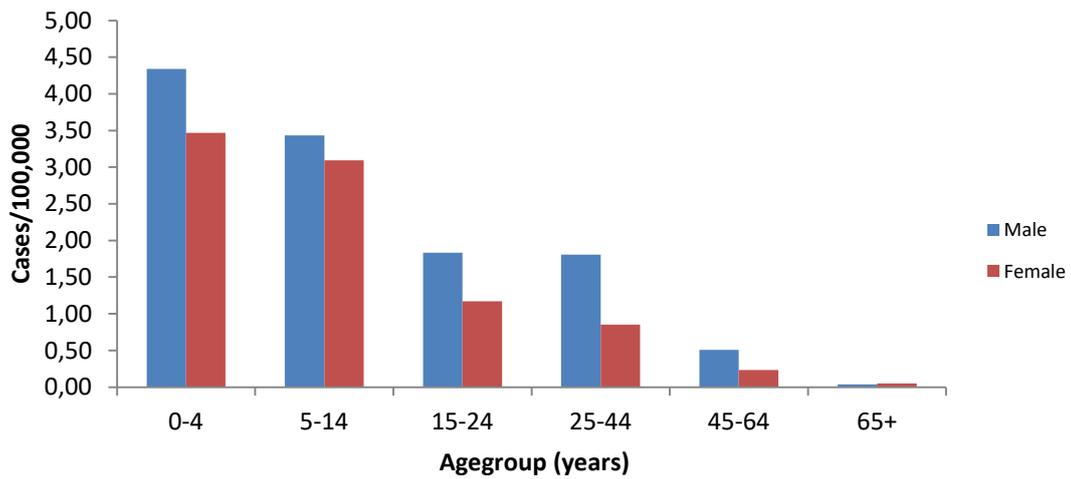
Table 1. Number of notified cases and annual notification rate of hepatitis A in Greece, Mandatory Notification System, 2004-2017.

| Year | Number of cases | Annual notification rate (per 100,000 population) |
|--------------|-----------------|--|
| 2004 | 52 | 0.48 |
| 2005 | 160 | 1.46 |
| 2006 | 120 | 1.09 |
| 2007 | 282 | 2.56 |
| 2008 | 119 | 1.08 |
| 2009 | 89 | 0.80 |
| 2010 | 58 | 0.52 |
| 2011 | 41 | 0.37 |
| 2012 | 74 | 0.67 |
| 2013 | 165 | 1.50 |
| 2014 | 86 | 0.79 |
| 2015 | 62 | 0.57 |
| 2016 | 214 | 1.98 |
| 2017 | 276 | 2.56 |
| Total | 1798 | 1.17* |

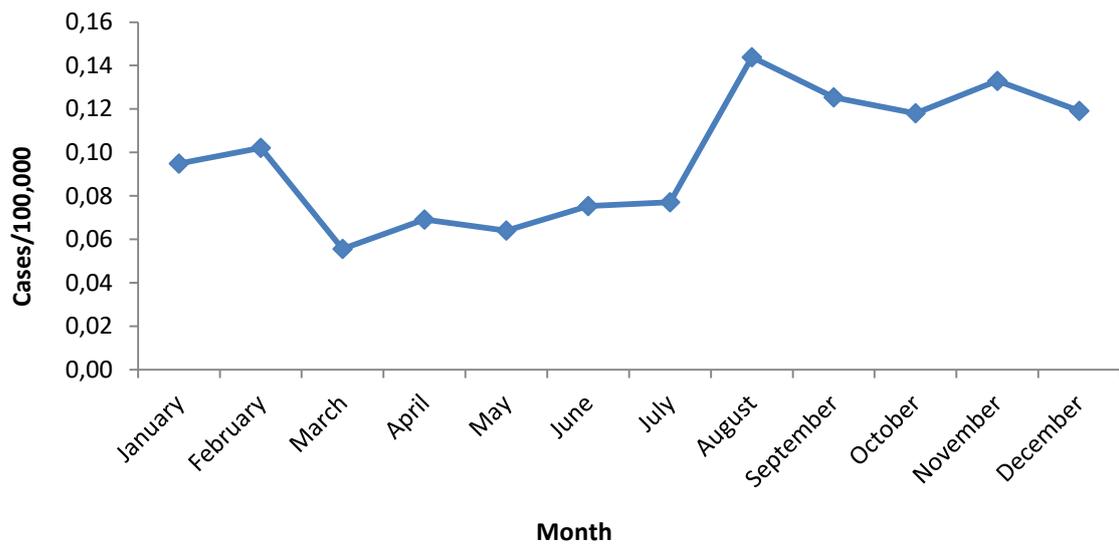
*Mean annual notification rate for the period 2004-2017



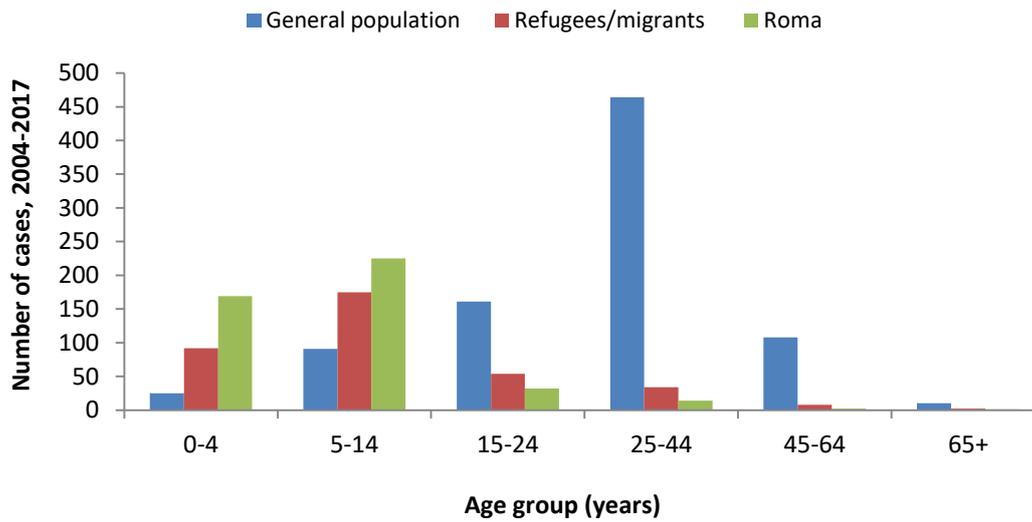
Graph 1. Time trend of hepatitis A notification rate (number of cases per 100,000 population), Mandatory Notification System, Greece, 2004-2017.



Graph 2. Notification rate of hepatitis A (cases/100,000 population) by gender and age group in Greece, Mandatory Notification System, 2004-2017.



Graph 3. Mean monthly notification rate (cases/100,000 population) of hepatitis A in Greece, Mandatory Notification System, 2004-2017.



Graph 4. Number of hepatitis A notified cases per age group in the general population (after subtracting migrants, refugees, travelers, and the Roma population), refugees/migrants and Roma in Greece, Mandatory Notification System, 2004-2017.

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