



## Department of Epidemiological Surveillance and Intervention

### EPIDEMIOLOGICAL DATA FOR ECHINOCOCCOSIS IN GREECE

#### (MANDATORY NOTIFICATION SYSTEM)

#### Key points

- Notification rates of echinococcosis are relatively low in Greece.
- For the period 2005-2009:
  - The mean annual notification rate of the disease was 0.14/100,000 population.
  - Animal breeders- farmers represented 36% of the cases belonging to high risk occupations.

Echinococcosis is a parasitic disease of humans and animals caused by *Echinococcus* tapeworm. Only *Echinococcus granulosus* is endemic in Greece. The disease, which is also known as hydatidosis, is characterized by the presence of cysts, growing in internal organs, mainly in the liver and lungs [1].

#### Time trend

The temporal distribution of echinococcosis cases for the decade 2000-2009 is presented in Figure 1. The notification rate of the disease ranged between 0.04 and 0.37 cases/100.000 population. The mean annual notification rate for the period 2005-2009 in Greece was 0.14/100,000 population (mean number of cases per year: 16, total number of cases 2005-2009: 79).

#### Age and gender distribution

For the period 2005-2009, the mean annual notification rate for men and women were respectively 0.13/100,000 and 0.14/ 100,000 of population. The median age of cases was 54 years old (range: 8-89). The disease had the lowest incidence in ages of 0-24 years old, whereas the highest rates were recorded in the age group of over 65 years old (Figure 2).

#### Seasonality

During 2005-2009, the disease has no apparent seasonal distribution (Figure 3). The incubation period and the type of symptoms may vary, according to the location and the number of cysts. The periods of increased numbers of notifications may coincide with the times when surgical operations or diagnostic tests are more frequently scheduled, since cysts are often a random finding.

## Geographical distribution

Table 1 presents the the mean annual notification rate for the period 2005-2009. The highest mean annual notification rate was reported in Eastern Macedonia/Thrace (0.52/100,000 population) and in Western Macedonia (0.46/100,000 population).

## Risk factors

For the period 2005-2009, frequent contact with animals is reported in 51% (n=67) of the cases. Farmers represent 36% (n=33) of the cases belonging to high risk occupations. Contact with soil and inadequate personal hygiene (i.e. wearing gloves, hand washing, consuming properly washed vegetables) are important risk factors as well.

## Conclusions

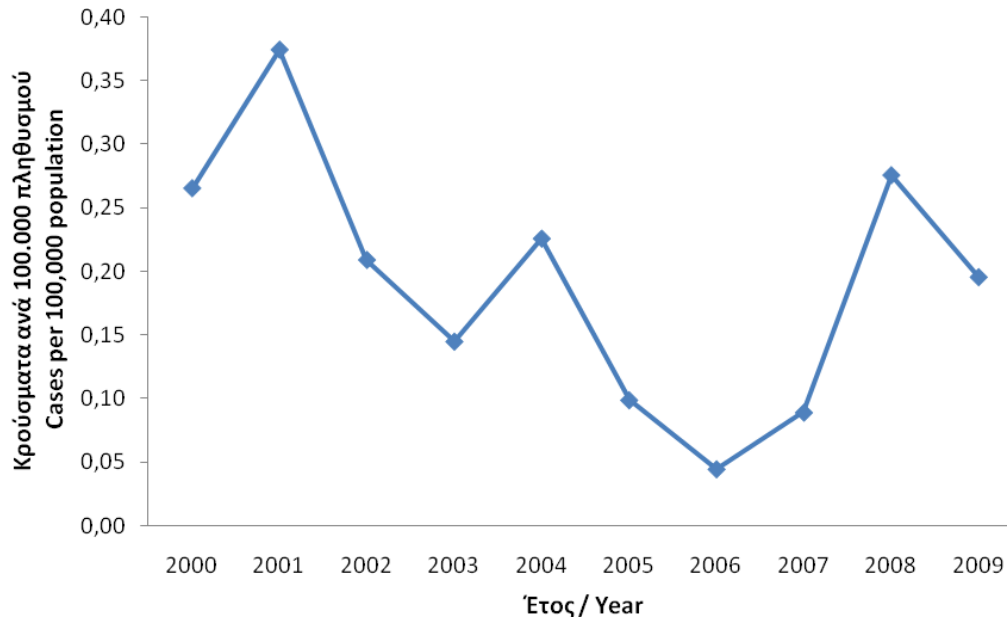
Notification rates during the period 2005-2009, were relatively low in Greece, with echinococcosis cases representing a small percentage among the mandatory notification system diseases, similarly to the majority of the EU countries [2].

## References

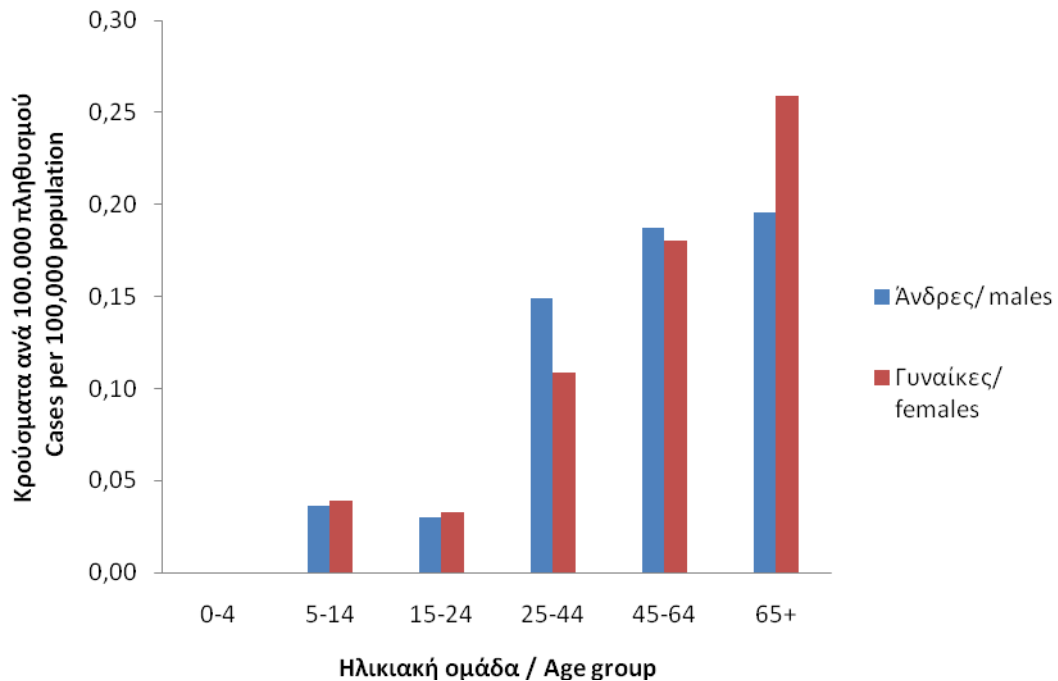
1. Heymann DL. Control of Communicable Diseases Manual. Washington DC: American Public Health Association; 2008.
2. European Centre for Disease Prevention and Control: Annual Epidemiological Report on Communicable Diseases in Europe 2009. Stockholm, European Centre for Disease Prevention and Control, 2009. Available from:

[http://www.ecdc.europa.eu/en/publications/Publications/0910\\_SUR\\_Annual\\_Epidemiological\\_Report\\_on\\_Communicable\\_Diseases\\_in\\_Europe.pdf](http://www.ecdc.europa.eu/en/publications/Publications/0910_SUR_Annual_Epidemiological_Report_on_Communicable_Diseases_in_Europe.pdf)

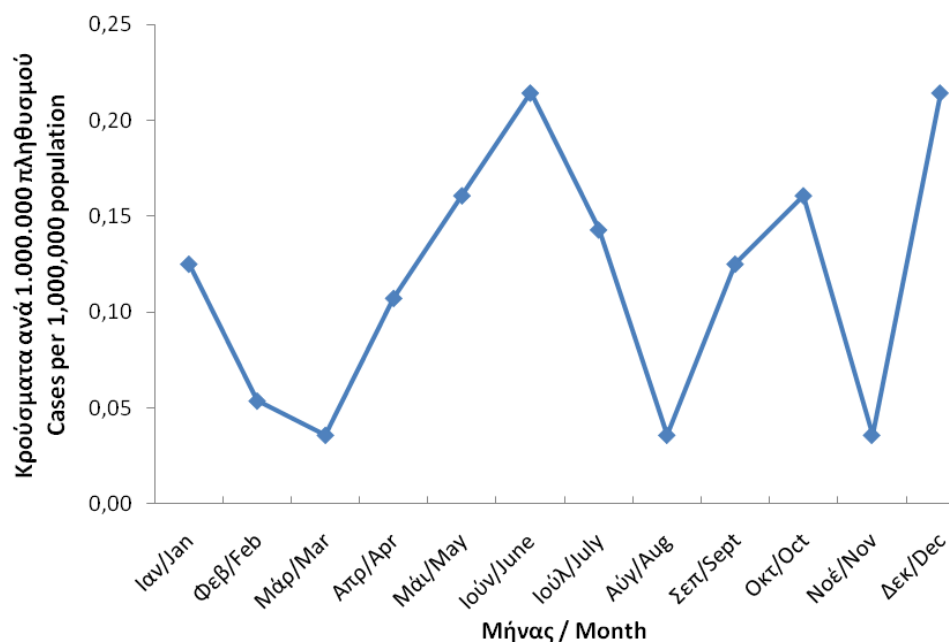
**Figure 1.** Time trend of echinococcosis notification rate, Greece, 2000-2009



**Figure 2.** Mean annual notification rate (cases/100,000 population) of echinococcosis by gender and age group, Greece, 2005-2009



**Figure 3.** Mean notification rate (cases/1,000,000 population) of echinococcosis by month, Greece, 2005-2009



**Table 1.** Reported cases and notification rate of echinococcosis (cases/100,000 population) per district of patient residence, Greece, 2005-2009

| Υπερπεριφέρεια (NUTS I) | Περιφέρεια (NUTS II)        | Mean annual notification rate |
|-------------------------|-----------------------------|-------------------------------|
| VOREIA ELLADA           |                             | 0,23                          |
|                         | Anatoliki Makedonia, Thraki | 0,52                          |
|                         | Kentriki Makedonia          | 0,16                          |
|                         | Dytiki Makedonia            | 0,46                          |
|                         | Thessalia                   | 0,05                          |
| KENTRIKI ELLADA         |                             | 0,16                          |
|                         | Ipeiros                     | 0,00                          |
|                         | Ionia Nisia                 | 0,19                          |
|                         | Dytiki Ellada               | 0,30                          |
|                         | Stereia Ellada              | 0,13                          |
|                         | Peloponnisos                | 0,09                          |
| ATTIKI                  |                             | 0,07                          |
|                         | Attiki                      | 0,07                          |
| NISIA AIGAIΟΥ, KRITI    |                             | 0,07                          |
|                         | Voreio Aigaio               | 0,00                          |
|                         | Notio Aigaio                | 0,07                          |
|                         | Kriti                       | 0,10                          |

Last updated: January 2011