

## Incidence of neural tube defects in Afyonkarahisar, Western Turkey

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**ABSTRACT.** The incidence of neural tube defects is higher in Turkey compared to that of developed countries. To prevent congenital malformations, understanding of the current status is necessary, which should be followed by public-based activities. We examined the incidence rate of neural tube defects (NTDs) in Afyonkarahisar. According to the records of the Department of Pediatrics, Zubeyde Hanım Hospital for Children's and Women's Health in Afyonkarahisar, the total number of births was 8631 during 2003 and 2004. Sixty-three babies with anomalies were identified in the early postnatal period. The incidence of neural tube defect based on records of hospitals in the city center was calculated as 3.58/1000, among which 9 (1.04%) of the malformed babies had spina bifida, 2 (0.23%) had encephalocele, 12 (1.39%) had anencephaly, and 8 (0.92%) had meningocele/meningomyelocele. In 32 of the 63 cases, there were also other malformations (cleft lip or clubfoot, hydrocephalus, foot abnormalities, etc.). We calculated the total incidence of NTDs, including live births, stillbirths and therapeutic abortions. Stillbirths referred to all fetal deaths after 24 weeks or longer gestation. In each case, the type of anomaly was determined. Thirty-one babies with an NTD were recorded among 8631 gestations (all live births, stillbirths and therapeutic abortions). The incidence of NTDs was found to be

35.9 per 10,000 live births in Afyonkarahisar. The incidence of spina bifida/anencephaly was 0.748 per 1000 newborns. Maternal illiteracy, maternal advanced age and residence in northern or eastern regions of Turkey were found to be risk factors for having a baby with an NTD. The incidence of NTDs is higher than in other European countries.

**Key words:** Neural tube defects; Spina bifida; Anencephaly; Mutation; Birth defects