Folic Acid and Birth Defects: A Case Study (Iran)

Saeed Dastgiri*[1], Zhila Khamnian[1], Bahram Samadi Raad[2], Mohammad Bager Hosseini[3]

Abstract

Background and objectives: The aim of this study was to evaluate the impact of folic acid use during pregnancy for the reduction of neural tube defects (NTDs) in the northwest region of Iran.

Material and Methods: 243 pregnant women that were identified by medical diagnostic tests as having a fetus with some types of congenital anomalies were studied. They were referred to Legal Medicine Organization of East Azarbaijan province to get permission for therapeutic termination of pregnancy.

Results: The prevalence of NTDs among pregnant women who were referred for therapeutic termination of pregnancy was 24.7 percent. Consumption of folic acid prevented NTDs by 79 percent (Odds Ratio = 0.21, CI 95%: 0.12–0.40) and 94 percent (Odds Ratio = 0.06, CI 95%: 0.03–0.15) compared to pregnancies complicated by other anomalies and normal pregnancies, respectively. Hydrops fetalis, hydrocephaly, Down syndrome, and limb anomalies did not have any significant association with the folic acid use.

Conclusion: Along with the advice for the consumption of folic acid for pregnant women, they should be offered prenatal screening or diagnostic tests to identify fetal abnormalities for possible termination of pregnancy for maternal and child health promotion.

Key Words: Folic Acid, Birth Defect, Therapeutic Termination of Pregnancy

1. Department of Community Medicine, Tabriz Health Services Management Research Center, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran (**Email**: saeed.dastgiri@gmail.com)
2. Department of Forensic Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
3. Department of Neonatology, Children Health Research Centre, Tabriz University of Medical Sciences, Tabriz, Iran