Infant mortality risk factors in a northeastern area of iran: A matched case- control study

Sir,

Although in recent years health system network of Iran has improved considerably to provide primary health care, and subsequently the infant mortality rate has decreased significantly, infant mortality rate is higher than in developed countries.[1]

This study was carried out as a matched case — control study, and all infant deaths (117 cases) that occurred in all hospitals, health centers, and private houses in Shahroud Township (northeast of Iran) during 2 years (2007-2009) were studied. Two controls (234 controls) that were alive till 1 year of age were selected for each case and they were matched for the time of birth and place of birth.

Of 351 infants, 58.1% and 41.9% were males and females, respectively. 62.4% of the case group and 58.1% of the control group were delivered via normal vaginal delivery. Previous history of high-risk pregnancy was 60.7% for cases and 32.9% for controls. 53.8% of cases and 10.3% of controls were under 37 weeks of gestational age. 59.8% of the case group and 9% of the control group were of low birth weight (LBW). Maternal age for 69.2% of cases and 72.2% of controls was between 20 and 35 years.

Based on a multiple conditional logistic regression, LBW and prematurity remained in final model with significant statistical association [Table 1].

Table 1: Infant mortality risk factors in Shahroud Township, 2007-2009

Variable	Odds Ratio (OR)	95% CI for OR	*P*-value
Weight <2500 g	8.04	3.60-17.93	<0.001
Gestational age <37 weeks	3.51	1.62-7.62	<0.001

In various domestic and international studies, LBW and prematurity increase the risk of infant mortality.[2-6] In this research, like the domestic studies carried out in Karadj and Kurdistan, there was no significant association between sex and infant mortality.[1,2] Based on our findings, LBW and prematurity are the most important risk factors for infant mortality.

Reza Chaman, Pooneh Zolfaghari[1], Mohammad-Bagher Sohrabi[2], Mahshid Gholami Taramsari[3], Ahmad Khosravi[4]

Center for Health Related Social and Behavioral Sciences Research, [1]Deputy of Public Health, [2]Imam Hossein Hospital, [3]School of Medicine, Shahroud University of Medical Sciences, Shahroud, [4]Department of Epidemiology and Biostatistics, School of Public Health, Shahroud University of Medical Sciences, Shahroud, Iran

Address for correspondence: Mr. Ahmad Khosravi, Department of Epidemiology and Biostatistics, School of Public Health, Shahroud University of Medical Sciences, Shahroud, Iran
E-mail: khosravi2000us@yahoo.com

REFERENCES

1. Kabiri M, Parsinia M, Goudarzi M, Babaei G. Relation between physical growth of 0-2 year-old children and socioeconomic and educational situation of their parents in Karadj/ Iran. Iran J Pediatr 2003;13:47-52.
2. Esmailnasab N, Majdzadeh S, Nadim A. An epidemiological study on stillbirth, neonatal mortality and their determinant factors, Kurdistan Province (west of Iran) in 1998. HAKIM 2002;4:272-7.
3. Earls F. Positive affects of prenatal and early childhood interventions. JAMA 1998;280:1271-3.
4. Hadavi M, Alidalaki S, Abedininejad M, Akhavan S. Etiologies and contributing factors of perinatal mortality: A report from southeast of Iran. Taiwan J Obstet Gynecol 2011;50:145-8.
5. Chaman R, Holakouie-Naieni K, Golestan B, Nabavizadeh H, Yunesian M. Neonatal mortality risk factors in a rural part of Iran: A nested case-control study. Iran J Pub Health 2009;38:48-52.
6. Chaman R, Alami A, Emamian MH, Naieni KH, Mirmohammadkhani M, Ahmadnezhad E, *et al*. Important risk factors of mortality among children aged 1-59 months in rural areas of Shahroud, Iran: A Community-based Nested Case-Control Study. Int J Prev Med 2012;3:875-9.