

Comparative evaluation of neonatal and obstetrics outcomes of labour between Iranian and Afghan ethnicities

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Abstract

Introduction: There are major differences in neonatal and obstetrics outcomes of labour among different ethnicities. The present study compared the neonatal and obstetrics outcomes of labour between the Iranian and Afghan ethnicities.

Methods: Neonatal and obstetrics problems were evaluated in Iranian and Afghan pregnant women, who had referred to Arash Educational/Treatment Center for labour during a year.

Results: 3020 (93.7%) Iranian and 202 (63%) Afghan women were evaluated. There were no significant differences between the two ethnicities in relation to a need for Neonatal Intensive Care Unit (NICU), the rate of live births, infant birth weight, congenital anomalies and premature births ($P>0.05$). The rate of Caesarian section was higher in Iranian women ($P=0.001$).

Conclusion: It seems that the differences in neonatal problems and outcomes of labour obstetrics between Iranians and Afghans can be attributed to different cultural, economic, and social conditions in comparison to different ethnicities.

Keywords: Neonatal problems, Outcomes of labour, Ethnic differences

Introduction

Different ethnicities exhibit different neonatal and obstetrics outcomes of labour (1). Iran is one of the countries with a very high number of Afghan refugees in recent years. The mixture of Afghan ethnicity with the local population of Iran draws necessary attention to health and medical issues of this population. In this regard, neonatal and obstetrics are very important. Although stability in the social conditions in Afghanistan has prompted a large number of Afghan refugees to return to their homeland, marriage between Iranians and Afghan refugees has caused many Afghans to decide to continue living in Iran. Therefore, it is necessary to consider the ethnic characteristics of the Afghans and compare them with the Iranians for planning in the field of health in a grand scale. A large number of studies have evaluated ethnic characteristics in different parts of the world (2-4). Among these studies the neonatal problems and outcomes of labour obstetrics in the Caucasians, American Africans, native Americans and Hispanics and a study by female British and South African physicians can be mentioned (5,6). Regarding the importance of the issue, the present study evaluated and compared the neonatal problems and outcomes of labour obstetrics in Iranian and Afghan women.

Methods

Data sources and study population

In this retrospective cross-sectional study we compared the birth outcomes of Iranian and Afghan pregnant women who gave birth at Arash Educational/Treatment Center during March 2002 to March 2003. The study population consisted of 3222 births including 3020 Iranian and 202 Afghans.

Outcome variables

Demographic data of the mother and infant, mode of labour, a need for Neonatal Intensive Care Unit (NICU) or no need for it, birth weight, gestational age at birth, congenital anomalies and labour time were the main outcome variables and were assessed by a questionnaire. Women with diabetes, Preeclampsia, Eclampsia, Chronic hypertension and systemic diseases were excluded from the study. The questionnaires were completed by referring to the patients' clinical files.

Statistical analyses

Data were analyzed with SPSS 18 statistical software. There were no age limits or any limitations in the number of previous deliveries. The prevalence of risk factors among the



different ethnic groups was determined. The incidence of demographic data of the mother and infant, mode of labour, a need for NICU or no need for it, birth weight, gestational age at birth, congenital anomalies and labour time were described for the different ethnic groups.

Results

Of 3222 deliveries which happened during the one-year period in Arash Educational/Treatment Center, 3020 (93.7%) and 202 (6.3%) cases were Iranian and Afghan women respectively. The total mean age of the subjects at labour was 25.4±5.4 years, with a range of 14-50 years; 45 cases were nulliparous when they referred to the hospital. Totally 1951 deliveries (60.6%) were natural and the rest were carried out by Caesarian section (9.4% premature deliveries). The mean of Apgar score at birth was 9.5±0.8. Live births encompassed 97.7% of the deliveries and finally a total of 3% of newborns required NICU for various reasons. **Figure 1** presents birth weights of the newborns. A total of 54 children had manifest congenital anomalies. The mean ages of the Afghan and Iranian mothers at birth were 24.7±5.6 and 25.4±5.3 years, respectively (P=0.05). **Table 1** compares the neonatal problems and outcomes of labour between the Iranian and Afghans mothers. There were no significant differences in the need for NICU, live birth rates, birth weights, manifest congenital defects and premature births between the Afghan and Iranian ethnicities (P>0.05). The rate of Caesarean section was significantly higher in Iranian women (40.4%) in comparison with Afghan women (31.1%; P=0.001). The parity in Afghan women (2.5±1.8) was significantly higher than Iranian women (1.7±1.0; P=0.001). The means of gesta-

tional age at the moment of delivery were 38.73±2.85 and 38.64±2.59 weeks in the Afghan and Iranian women, respectively (P=0.001). The means of Apgar scores in Iranian and Afghan newborns were 9.5±0.8 and 9.3±0.9, respectively (P=0.001).

Discussion

Emigration from Afghanistan is a result of socio-political circumstances such as drought, regime changes, wars, and economic structures; but it is also situated in a historical continuum of recurrent population movements on a regional scale. Yet after 23 years of civil war in Afghanistan, there has been a continuous flow of more than 5 million refugees out of the country. Iran has hosted about 40% of all refugees. The majority of them have resided outside of camps with opportunities to integrate locally, having access to the Iranian labour market and government services (7). This study evaluated and compared the neonatal problems and outcomes of labour obstetrics in Iranian and Afghan women. The results of the present study indicated that there were significant differences in the mean of gestational age at labour, Apgar scores of the newborn babies, the number of parities and mother's age at labour between the Afghan and Iranian ethnicities.

There were no significant differences between the two ethnicities in relation to the infants' need for NICU, the number of live births, birth weight, manifest congenital anomalies and premature births. Caesarian section was significantly more numerous in Iranian women compared to Afghan women as Iranian women had a tendency to select this mode of delivery. It should be pointed out that the rate of Caesarian section in both ethnicities was higher than the global standards and even higher than some Asian countries (8). *Dott et al* reported a mortality rate of 5.6% during the first 7 days after birth in Afghan children (9). The present study did not reveal any significant differences in the rate of live births between the two ethnicities and the rate of still births. The means of Apgar scores at birth were 9.5±0.8 and 9.3±0.9 in Iranian and Afghan newborn babies, demonstrating an 0.2 higher Apgar score in Iranian infants compared to Afghan infants (P=0.001). A total of 1.6% of Iranian infants and 3% of Afghan infants had manifest congenital defects, with no statistically significant differences. Premature birth rate in Afghan women was 3.6% higher than Iranian women (P=0.09). In a study by *Emanuel et al* in Washington, premature birth rates were 6.87%, 13.26%, 11.83% and 10.37% in Caucasians, African Americans, native Americans and Hispanics, respectively (5). In the present study, premature birth rates were 9.2% and 12.8% in Iranian and Afghan women, respectively. In a study in North Carolina, low birth weight rates were reported to be 9.5%, 91.1% and 18% in Hispanics, Caucasians and African Americans, respectively (10). Low birth weight rates in the present study were 7.8% and 7.1% in Iranian and Afghan women, respectively. The mean of gestational ages at labour in Af-

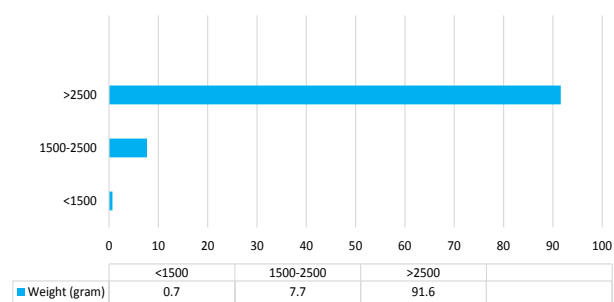


Figure 1. Birth weight of the newborn babies

Table 1. Comparison of the neonatal problems and outcomes of labour between the Iranian and Afghans mothers

Outcome	Iranian race	Afghan race (%)	P-value
Need for NICU	3.1%	4.6%	0.17
Dead born	2.3%	2.5%	0.48
Low birth weight	7.8%	7.1%	0.06
Gross anomaly	1.6%	3%	0.11
Preterm delivery	9.2%	12.8%	0.09

NICU= Neonatal Intensive Care Unit

ghan women (38.73±2.85 weeks) was lower than Iranian women (38.64±2.59 weeks) (P=0.001). Finally, it appears that there were significant differences between Iranian and Afghan ethnicities in relation to mean gestational age at birth, the number of deliveries, mode of delivery and mothers' age at labour, which can be attributed to cultural, economic, and social conditions of the two ethnicities rather than the different ethnicities. The two Iranian and Afghan ethnicities bear great similarities when only ethnicity is considered.

Conclusion

It seems that the differences in neonatal problems and labour outcomes between the Iranian and Afghan ethnicities can be attributed to different cultural, economic, and social conditions in comparison to the differences in ethnicity. Two groups are very similar to each other when only ethnicity is taken into account.

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Ethical issues

This study was approved by ethical committee of Tehran University of Medical Sciences.

Authors' contributions

All authors passed four criteria for authorship contribution based on recommendations of the International Committee of Medical Journal Editors.

References

1. Bryant AS, Worjolah A, Caughey AB, Washington AE. Racial/ethnic disparities in obstetric outcomes and care: prevalence and determinants. *Am J Obstet Gynecol* 2010; 202(4): 335-43.
2. Ravelli AC, Tromp M, Eskes M, Droog JC, van der Post JA, Jager KJ, *et al.* Ethnic differences in stillbirth and early neonatal mortality in The Netherlands. *J Epidemiol Community Health* 2011; 65(8): 696-701.
3. Hsieh WS, Hsieh CJ, Jeng SF, Liao HF, Su YN, Lin SJ, *et al.* Favorable neonatal outcomes among immigrants in Taiwan: evidence of healthy immigrant mother effect. *J Womens Health (Larchmt)* 2011; 20(7): 1083-90.
4. Collins JW Jr, Wu SY, David RJ. Differing intergenerational birth weights among the descendants of US-born and foreign-born Whites and African Americans in Illinois. *Am J Epidemiol* 2002; 155(3): 210-6.
5. Emanuel I, Leisenring W, Williams MA, Kimpo C, Estee S, O'Brien W, *et al.* The Washington State intergenerational study of birth outcomes: methodology and some comparisons of maternal birthweight and infant birthweight and gestation in four ethnic groups. *Paediatr Perinat Epidemiol* 1999; 13(3): 352-69.
6. Heinonen S, Saarikoski S. Reproductive risk factors, pregnancy characteristics and obstetric outcome in female doctors. *BJOG* 2002; 109(3): 261-4.
7. Ghods AJ, Nasrollahzadeh D, Kazemeini M. Afghan refugees in Iran model renal transplantation program: ethical considerations. *Transplant Proc* 2005; 37(2): 565-7.
8. Acharya PP, Alpass F. Birth outcomes across ethnic groups of women in Nepal. *Health Care Women Int* 2004; 25(1): 40-54.
9. Dott MM, Orakail N, Ebadi H, Hernandez F, MacFarlane K, Riley PL, *et al.* Implementing a facility-based maternal and perinatal health care surveillance system in Afghanistan. *J Midwifery Womens Health* 2005; 50(4): 296-300.
10. Leslie JC, Galvin SL, Diehl SJ, Bennett TA, Buescher PA. Infant mortality, low birth weight, and prematurity among Hispanic, white, and African American women in North Carolina. *Am J Obstet Gynecol* 2003; 188(5): 1238-40.