

Prevalence of multiple birth in Isfahan, Iran

Ahmad Yazdekhashti, Alireza Firouzfard¹, Parisa Hajheidari¹, Arash Havaei², Golchehreh Tavakol¹, Fereshteh Karbasian³

Pediatrician, Amin Hospital, Isfahan University of Medical Sciences, ¹Medical Student, Student Research Committee, School of Medicine, Isfahan University of Medical Sciences, Isfahan, ²School of Medicine, Tehran University of Medical Sciences, ³Pediatrician, Mofid Children Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Background: According to increasing rate of using assisted reproductive technology (ART) which result in higher rates of multiple birth and natal difficulties, we aimed to determine the prevalence rate of multiple birth pregnancies. **Materials and Methods:** A descriptive cross-sectional study evaluating birth files in 2009–2010 of main hospitals of Isfahan, Iran. **Results:** Among 31640 files' studies, 614 cases of multiple birth pregnancies were investigated. The product of these pregnancies were 1286 (50.2% females) infants including 557 twins (17.6/1000), 56 triplets (1.8/1000), and one case of quadruple (0.03/1000). Infants weigh <2500 g were 84.9% of all. Mothers had a mean age of 27.9 ± 4.9 which 30.4% of them had a positive history of using ART. **Conclusion:** The prevalence of multiple birth pregnancies is growing. The need for more mother and child care is important. Using ART world wide is leading more multiple birth which could be a cause for more complicated pregnancies.

Key words: Epidemiology, multiple birth, prevalence, triplet, twin

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INTRODUCTION

Each of two or more individuals of the same pregnancy period of the same mother is called twins or multiples.^[1] Multiple pregnancies are high-risk pregnancies which about 14% of neonatal mortalities are related to.^[2] The prevalence of twins and triplets is due to multiple factors such as racial factors (e.g., 6% in Nigeria, 10% in Brazil, and 1% among whites), mother individual characteristics, and also using assisted reproductive technology (ART).^[3-6] Meanwhile, the mean prevalence rate in the world is reported 3%.^[2]

A considerable issue is the recent growing trend of this prevalence rate, which requires more intensive care units and more prenatal and maternal care. This increasing trend is shown in United States, Spain, and Beijing.^[7-9]

Due to use of the ARTs in Iran, which is the most leery in this issue, we aimed to calculate the recent prevalence rate of multiple birth pregnancies in Isfahan, in 2009–2010.

MATERIALS AND METHODS

In this descriptive cross-sectional study, all files related to births in 2009–2010 of main hospitals in Isfahan were evaluated and applicable data were collected. Finally, data were classified and released by SPSS statistical software (version 16.0; Chicago, INC., IL) presented as mean and standard deviation.

RESULTS

A total of 31,640 files were gone under study. Of which 614 were cases of multiple birth pregnancies. The products of these pregnancies were 1286 infants including 557 twins (17.6/1000), 56 triplets (1.8/1000), and just one case of quadruple (0.03/1000) [Table 1].

Mothers had mean ages of 27.9 ± 4.9 (17–46 range). In this regard, 34.3% of mothers were 30 and above. The mean gestational age at birth time was 34.3 ± 3.5 weeks which only 27.2% of them were term pregnancies (>37 weeks). Mothers with a history of

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Address for correspondence: Dr. Alireza Firouzfard, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran.
E-mail: alireza.firouzfard.mui@gmail.com

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Table 1: Characteristics of multiple neonates born in 2009 and 2010

	Twins (%)	Triplets (%)	Quadruples (%)	Sex		GA (%)	
				Female	Male	Term	Preterm
2009	287 (93.4)	20 (6.6)	0	318	316	165 (26)	469 (74)
2010	270 (87.9)	36 (11.7)	1 (0.4)	327	325	176 (27)	476 (73)

Term \geq 37 weeks; Preterm <37 weeks. GA = Gestational age

infertility and ART used were 30.4% of total. In relation to delivery mode, there were just three cases of natural vaginal delivery – which were for twins – and the rest were cesareans section deliveries.

A total of 646 (50.2%) infants born in 1286 were females. 52% of first offsprings were male and 52% of the second were female. In a case of quadruple, the first was male and the rest were female. The mean birth weight of infants from the first to the fourth was 2253.9 ± 1091 , 2213 ± 667.8 , 1750.9 , and 600 g, respectively [Table 2]. Most of these neonates weigh <2500 g (84.9%).

DISCUSSION

In our study, the prevalence of multiple birth pregnancies in Isfahan in the years 2009 and 2010 were 19.4/1000 births. Low birth weight neonates were 84.9% of all 1286. Furthermore, about one-thirds of these mothers accounted for receiving ART for any reason. Again about one-thirds of these mothers were older than 30 years old. These two latter factors are playing important role in high multiple birth rate. This prevalence rate comparing with previous studies in Iran shows significant increase. So that in the years 1996–2000, the twin and triplet delivery rates were 6.7 and 0.15/thousand births, respectively, in Mashhad, Iran, which have been obtained by Hamed and Akhlaqi.^[10] Despite the location, a developing trend is seen in the last two decades. A trend that has also been observed in advanced countries. In the United States, there have been a growth of 59% in the years 1980–1999,^[9] 63% and 217% increase in twins and triplets, respectively, in Spain^[8] and in Beijing.^[7]

CONCLUSION

In this study, the prevalence of multiple birth in 2009–2010 with elevated health risks and accompanying greater healthcare costs.

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Table 2: Body birth weight categories splitted by the order of neonate

	Normal (%)	LBW (%)	VLBW (%)	ELBW (%)	Total (%)
1 st neonate	175 (28.5)	392 (63.8)	34 (5.5)	13 (2.1)	614 (100)
2 nd neonate	164 (26.7)	393 (64)	48 (7.5)	9 (1.5)	614 (100)
3 rd neonate	2 (3.5)	44 (77.2)	9 (15.8)	2 (3.5)	57 (100)
4 th neonate	0	0	0	1 (100)	1 (100)

Normal weight is \geq 2500 g. LBW = Low birth weight 2500-1500 g; VLBW = Very low birth weight 1500-1000 g; ELBW = Extremely low birth weight lower than 1000 g

files although we had permission paper from the ethical department of Isfahan university.

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Conflicts of interest

There are no conflicts of interest.

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