

Multiple Pregnancy Trends in the NICU

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Objective: To analyze changing trends in the admission of multiple births to the Neonatal Intensive Care Unit (NICU) on a national cohort of patients.

Background: Of 3.7 million births in the United States, almost 400,000 infants a year are admitted to the NICU. One out of seven deliveries is at risk for premature delivery and one out of every two multiple gestation pregnancies are at risk for premature delivery. Technology advances have been successful in the treatment of infertility patients as well as the treatment of premature labor. A recent CDC report cited advancing primiparous maternal age as another reason for the increase in higher-order multiples. In addition, many health plans are now covering all or part of the cost of infertility treatment, allowing more families the benefit of becoming pregnant. Fertility treatment has produced increasing numbers of twins, triplets, and other multiples.

Methods: Retrospective data on 14659 patients was analyzed from the clinical database from 1999 to September 2001. All patients were admitted to the NICU and case managed by Paidos Health Management Services in over two hundred hospitals across the United States. Data measured on infants included was gestational age at birth (GA), birth weight (BW), length of stay (LOS), age of mother, parity of mother and type of multiple.

Results: There were 2681 multiples admitted to the NICU. The percent of NICU admissions of multiples significantly increased from 16.7% to 19.2% from 1999 to September 2001 ($p < 0.001$). Of these multiples, there was an increase in premature births of less than 37 weeks ($p < 0.001$) with an average gestational age remaining consistent from 32.23 weeks to 32.33 weeks. There was a significant increase in % of population obtaining prenatal care from 82.4% to 88.1% ($p < 0.001$). There is an increase in higher-order multiples (3 or more) to 6.2% in 2001 up from 5.7% in 1999 ($p = 0.13$). There were no differences in % of expired infants, gestational age at birth, length of hospitalization, maternal age or primiparous mothers. There were no differences in the distribution of gestational ages analyzing groups of <28 weeks, 29-32 weeks, and 33-36 weeks. Over 50% of infants in each year were between 33-36 weeks gestation. Results are the following:

	1999	2000	2001	Significance
# of multiples	806	1103	772	
% of multiples	16.6%	19.0%	19.2%	<0.0001
% expired	2.2%	2.7%	3.1%	0.31 NS
GA at birth (weeks)	32.23 ± 3.04	32.63 ± 3.24	32.33 ± 3.15	0.31 NS
LOS (days)	28.29 ± 27.41	25.43 ± 25.79	28.22 ± 31.19	0.17 NS
% < 37 weeks	95.3%	92.6%	97.4%	<0.001
% prenatal care	82.4%	90.4%	88.1%	<0.001
Twins n	760	1056	724	
GA (weeks)	32.38 ± 3.08	32.72 ± 3.25	32.44 ± 3.17	NS
BW (grams)	1764 ± 535	1849 ± 570	1789 ± 573	NS
LOS (days)	27.37 ± 27.01	24.60 ± 25.18	26.60 ± 26.15	NS
Triplets or more n	46	47	48	
GA (weeks)	31.35 ± 2.61	31.57 ± 3.00	31.35 ± 2.80	NS
BW (grams)	1498 ± 416	1557 ± 543	1514 ± 472	NS
LOS (days)	37.61 ± 28.56	35.83 ± 30.22	41.60 ± 54.8	0.88 NS

Conclusions: Multiple births are on the rise resulting in more admissions to the NICU. Perinatologists and Neonatologists must be aware of these increasing trends as technology and medical advances occur and continue to measure outcomes for these infants. Caregivers, health plans, and consumers must be educated on the risks of multiple births and for appropriate decision making.