Low Birth Weight of Infants Associated With Maternal Heroin Use

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AN IMPORTANT secondary effect of the increase in drug use by adolescents and young adults is the high incidence of babies with low birth weight. Problems that may affect the addicted mother or her newborn child are complications of delivery, neonatal addiction and withdrawal, and low birth weight (*1–6*). This report describes the frequency with which infants of low birth weight were born to women using narcotics during a heroin epidemic, 1966–67 and 1970–71.

In New York City the number of birth certificates showing that the mother used narcotics

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(principally heroin) increased from 227 in 1966 to 706 in 1971, or 211 percent. This increase occurred while the total number of births decreased 14 percent, from 153,334 in 1966 to 131,920 in 1971.

As shown in table 1, the rate of maternal "narcotism" increased from 1.5 per 1,000 live births in 1966 to 5.4 per 1,000 in 1971. Births of babies weighing less than 2,501 grams—the usual definition of low birth weight—were approximately four times more frequent among narcotic-using mothers than among mothers of all babies born alive in New York City.

As shown in the following table, the percent of babies with low birth weight born to addicted mothers fluctuated between 41 and 45 percent for 1966, 1967, 1970, and 1971. During the same years the proportion of babies born with low birth weight to all babies born in the city showed a slight but consistent decline of about 10 percent.

Year	*Births to addicted mothers*	*All New York City births*
1966	44.9	10.4
1967	40.8	10.1
1970	43.3	9.7
1971	42.5	[1] 9.6

[1] Estimated.

Classification by ethnic group of mothers in the 1971 cases in which narcotism was mentioned on the baby's birth certificate (table 2) shows that the percentage of babies with low birth weight is highest among nonwhite mothers, 47 percent, while the percentage for both white and Puerto Rican mothers is 34 percent.

When the incidence of infants of low birth weight among narcotic-using mothers was examined by age (table 3), no significant pattern was observed. The startling finding was the consistently increasing number of live births to addicted women under 25 years of age.

Table 4 shows that the percentage of all babies with narcotism mentioned on their birth certificates has increased among women in the younger age groups, while the relative contribution by 25 and older age groups is declining. This shift in proportion is the result of the marked increase in the number of addicts among younger women. The actual number of cases among women age 30 and over has remained relatively constant. The number of cases in the age group 25–29 has in-

Table 2. Babies born to heroin-addicted mothers, by ethnic group and weight, New York City, 1971

Weight (grams)	Total	White	Non-white	Puerto Rican
Less than 1,000	14	4	9	1
1,001–1,500	24	5	18	1
1,501–2,000	68	9	51	8
2,001–2,500	194	37	136	21
2,501–3,000	241	58	144	39
3,001 or more	158	48	90	20
Unknown	7	0	6	1
Total	706	161	454	91
Percent under 2,501 grams	42.5	34.2	47.1	34.1

Table 3. Percentage of live babies weighing under 2,501 grams, by age of heroin-addicted mother, New York City, 1966–67 and 1970–71

Age group (years)	1966	1967	1970	1971
All ages	44.9	40.8	43.3	42.5
19 and under	72.7	37.5	40.7	40.6
20–24	46.3	28.2	45.8	43.1
25–29	38.2	38.2	39.6	38.1
30–34	43.1	44.9	40.0	54.3
35 and over	66.7	43.8	52.9	52.4

Table 1. Babies born to heroin-addicted mothers, by weight, New York City, 1966–67 and 1970–71

Weight (grams)	1966	1967	1970	1971
1,000 or less	7	5	16	14
1,001–1,500	10	7	24	24
1,501–2,000	21	12	48	68
2,001–2,500	64	54	119	194
2,501–3,000	75	70	146	241
3,001 or more	50	43	125	158
Unknown	0	0	0	7
Total	227	191	478	706
Rate per 1,000 live births	1.5	1.3	3.3	5.4

Table 4. Live births to heroin-addicted mothers, by age group, New York City, 1966–67 and 1970–71

Age group (years)	1966		1967		1970		1971	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
19 and under	11	4.8	16	8.4	118	24.7	187	26.5
20–24	54	23.8	55	28.8	212	44.4	318	45.0
25–29	68	30.0	55	28.8	96	20.1	134	19.0
30–34	58	25.6	49	25.6	35	7.3	46	6.5
35 and over	36	15.9	16	8.4	17	3.6	21	3.0
Total	227	100.1	191	100.0	478	100.1	706	100.0

NOTE: Total of percent columns may exceed 100 because of rounding.

creased, but their relative contribution has declined in comparison with the sharp increase in total cases.

Of the 706 births to addicted mothers in 1971, 70 percent were out of wedlock as compared with a 20 percent out-of-wedlock distribution for all New York City births. The incidence of congenital malformations reported at birth among babies of heroin-addicted mothers was 12.7 per 1,000 live births. For all births, the incidence of congenital malformation is approximately 10 per 1,000 live births.

The spreading geographic prevalence of drug use is evident from the 706 births in 56 hospitals during 1971. These hospitals were distributed throughout the five boroughs of New York City. Three hospitals (Harlem, Kings County, and Beth Israel) delivered 33 percent of all the babies whose birth certificates mentioned narcotism. Eight hospitals delivered 34 percent of the babies of addicted mothers, and the remaining 45 hospitals delivered 32 percent.

Discussion

This report is based on tabulations of data from the confidential medical portion of birth certificates filed with the New York City Department of Health. Data on the duration and degree of addiction during the pregnancy were not available. Lack of awareness on the part of the medical staff at some hospitals, attempts at concealment by some women, and incomplete certificates could have resulted in underreporting evidence of narcotism. The numbers presented may, therefore, be considered minimum incidence.

Pregnant women who are addicted to narcotics are likely to have many of the characteristics that are associated with mothers of low birth weight offspring. A recent study by Whiting and associates (*7*) showed the outcome of pregnancy of addicted mothers and controls at two New York City hospitals. The mothers were matched for age, race, parity, whether the birth was out of wedlock, and hospital of delivery. The results of the study revealed a significantly lower birth weight for infants of the addicted mothers. At one hospital the addicted mothers had received less prenatal care than the controls. At the second hospital, prenatal care had been similar, but a significant difference in birth weights was found nonetheless.

Conclusion

The well-publicized social costs of heroin use include documented death from acute narcotism and infectious complications such as hepatitis, tetanus, or endocarditis. Increasing use of heroin by women in their prime childbearing years is also producing an excess of undersized infants with all the problems associated with low birth weight.

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