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# Sperm Counts: Some Experts See a Fall, Others Poor Data

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DR. HARRY FISCH, who directs the male reproductive center at Columbia University's College of Physicians and Surgeons, recently gave a talk to men in a support group for the infertile. How many, he said, think that sperm counts are declining worldwide? All raised their hands. And how many, he asked, think the decline is due to some toxin in the environment? Most thought that was true.

Overnight, say many male infertility experts, and largely on the basis of one controversial paper, a conviction has been born. Just as DDT caused birds' eggs to shatter, proponents of the theory say, something in the food, or water or perhaps the plastics people use with such abandon is decimating sperm counts.

But some leaders in the field of male reproduction say that recent studies cast serious doubt upon the declining sperm count hypothesis, and that the best data now available indicate that sperm counts have remained constant for decades.

Others say that every study cited by proponents of the theory had serious methodological problems, including inconsistencies in the selection of subjects, the collection of sperm and the analyses of semen. They say there are therefore no reliable data on the question of sperm counts and so no basis for proclaiming that they are declining.

The paper that first raised alarms about sperm counts was published in The British Medical Journal in September 1992. In it, Dr. Niels E. Skakkebaek of Rigshospitalet in Copenhagen and his colleagues reviewed data from 61 papers published from 1938 to 1991. They reported that the average sperm count had declined to 660,000 per milliliter from 1,130,000 over the last half century, a "remarkable change" that "is probably due to an environmental factor."

The authors of a new book, "Our Stolen Future," argue that the factor is a group of estrogen-like synthetic chemicals that are widespread in the environment, a thesis also favored by Dr. Skakkebaek. Even in minute amounts, they say, the chemicals can disrupt endocrine systems.

As evidence, Dr. Theo Colburn, a senior scientist at the World Wildlife Fund who is a co-author of the book, cites studies of people who were exposed before birth to the synthetic estrogen diethylstilbestrol, or DES. In the 1950's, doctors prescribed this hormone to pregnant women in the mistaken belief that it could prevent miscarriages. Later, it was found to cause genital abnormalities and a rare form of vaginal cancer in women exposed to it while in the womb.

But some leading experts on male infertility take issue with the entire argument linking the synthetic chemicals with falling sperm counts. Dr. Richard Sherins, director of the division of andrology at the

Genetics and IVF Institute in Fairfax, Va., argued that the largest, most carefully conducted study of men born to women who took DES in pregnancy showed no decline in fertility. He said the findings indicated that certain animal studies that suggested otherwise did not necessarily predict what would happen in humans.

The study that Dr. Sherins cites, conducted by Dr. Allen J. Wilcox of the National Institute of Environmental Health Sciences, was reported last May in *The New England Journal of Medicine*.

In addition, Dr. Sherins said, there is no evidence that infertility is on the rise in the United States. "The National Center for Health Statistics, which is the only group in the U.S. with a substantive database, has not reported any change in fertility rates in 20 years," Dr. Sherins said.

Finally, Dr. Sherins and other experts on male fertility said, there is no reliable evidence that sperm counts are declining in this country or worldwide. That was also the consensus reached at a recent meeting of urologists, toxicologists and basic scientists convened by Dr. Delores Lamb, a hormone researcher, and Dr. Larry Lipshultz, a professor of urology, both of the Baylor College of Medicine in Houston.

Dr. Colborn, however, wrote that the skepticism over Dr. Skakkebaek's findings "recalls similar disbelief at the first news in 1985 that a dramatic hole had opened in the earth's protective ozone layer over Antarctica."

But a problem with the study, Dr. Lipshultz said, is that Dr. Skakkebaek compared data from one country at one time with data from other countries at other times. Most of the data from the early years are from New York City. The later studies were from underdeveloped countries and from Europe.

"That would be O.K. if there were no such thing as geographic variation in sperm counts," Dr. Lipshultz said. But, he added, a recent study by Dr. Fisch of Columbia University had found that New York City, for unknown reasons, tended to have much higher sperm counts than other places, like Los Angeles or Minneapolis. And, Dr. Lipshultz said, if the New York data are removed from the study by Dr. Skakkebaek, the sperm counts remain constant through the years.

Moreover, Dr. Lipshultz said, recent studies of sperm counts in Seattle, New York, Los Angeles, and Minneapolis show that the counts in each area have remained constant for decades.

Dr. John Peterson Myers, an author of the book and director of the W. Alton Jones Foundation, an environmental group, said the new studies showed that "it is overly simplistic to expect everything to happen the same way across the planet." But, he said, the hypothesis that endocrine disrupting chemicals had damaged some men during fetal life, causing their sperm counts to be low, "is still the best prevailing hypothesis."

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