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NEWS

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MEDIA ADVISORY

FACTS AND FALLACIES ABOUT FATHERS AND FETUSES

Boston, Mass.--The assumption that only the female parent can adversely affect the development of the unborn lacks scientific validity, according to Gladys Friedler, Ph.D., the chairperson of the first symposium on the impact of the father on the fetus, which will be held by the American Association for the Advancement of Science on February 17.

Friedler, an associate professor of psychiatry and pharmacology at Boston University School of Medicine (BUSM), will open the symposium with an overview of existing research, including her own work, demonstrating that paternal exposure to foreign substances affects their offspring. She will also speculate about the reasons for an historic lack of attention to the father's role and emphasize the importance of addressing this connection in order to prevent further damage to children.

Each year, approximately 250,000 children are born with birth defects; 60 percent of which are of unknown origin. Statistics do not include the numerous subtle behavioral and functional problems that can develop as a child grows. Most research and public attention, says Friedler, focuses on maternal exposure to drugs and chemicals in the workplace or the environment and the role that exposure plays in the development of these problems.

But, according to Friedler, evidence already exists that paternal exposure can also affect the developing fetus. "Paternal exposures to drugs, alcohol, radiation and workplace toxins have been reported to produce a wide spectrum of problems, including stillbirths, spontaneous abortions, fetal and neonatal growth retardation, childhood leukemia, tumors of the central nervous

system, and behavioral changes," says Friedler. She adds that there is no reason to believe that the substances already studied are the only agents that--through paternal exposure--may affect the unborn child.

Friedler, who began studying the issue in the early 1970s, was one of the first researchers to demonstrate a connection between paternal factors and the development of their offspring. She evaluated the effects of male exposure to nitrous oxide, alcohol and opiate drugs on generations of mice and found that even short-term exposure of male mice to these substances caused delays in the appearance of developmental landmarks and long-term alterations in growth, behaviors and reproductive function of offspring.

She speculates that the historic lack of interest in the father's impact on the fetus may involve scientific and cultural biases. She suggests that since the mechanisms that link father and fetus are more difficult to understand and the effects that fathers have on the child seem to be more remote that some may consider the connection of less importance.

"Continuing to minimize the father-fetus connection will inhibit prevention efforts and ultimately harm more men and their children," says Friedler. "Only by taking the roles of both parents into account will we be able to fully address and develop strategies for prevention."

Other presentations at this symposium will be: "Paternal Influence in Mid-Nineteenth and Early Twentieth Century Hereditarian Theories" by Joy Harvey, a Rockefeller Fellow, the Department of History of Science at the University of Oklahoma; "Protecting Fetal Health Through Legal Constraints on the Behavior of Women" by Renee M. Landers, an assistant professor of Law at Boston College Law School; and "Toxicants that Affect Sperm Cell Function May Have Fetal Consequences," by Leonard Nelson, a professor of physiology and biophysics, Medical College of Ohio.

Boston University School of Medicine is located in the South End of Boston, adjacent to two of its principal teaching hospitals--The University Hospital and Boston City Hospital.