Workshop on Hormones, Hormone Metabolism, the Environment, and Breast Cancer

The National Action Plan on Breast Cancer (NAPBC) is a public–private partnership designed to stimulate rapid progress in eradicating breast cancer. Soon after its formation, the NAPBC identified six priority areas for emphasis, one of which is the etiology and prevention of breast cancer. Under the aegis of the NAPBC, and co-sponsored by the National Cancer Institute, the Department of Health and Human Services’ Office on Women’s Health, and Tulane/Xavier University’s Center for Bioenvironmental Research, a workshop on Hormones, Hormone Metabolism, the Environment, and Breast Cancer was convened in New Orleans, LA, on September 28–29, 1995. The workshop involved approximately 40 attendees, including both scientists and breast cancer advocates, who discussed current research on a variety of topics related to hormonal and environmental causes of breast cancer. The two groups together identified unmet needs and unresolved issues, and they assembled recommendations for advancing our understanding of and facilitating research on the role that endogenous hormones, hormone metabolic pathways, and the environment play in the etiology of breast cancer. A full-length discussion of unmet needs and unresolved issues can be obtained by request. The recommendations of the group follow.

- Breast cancer research should consistently reflect careful consideration of the concerns and requests of the women who are ultimately affected by this research. To facilitate progress, most workshop participants agreed that a targeted etiology- and prevention-based research program should be developed and implemented. Basic scientists, epidemiologists, and breast cancer advocates should work together to accomplish this goal. At the same time that areas of basic science are emphasized, equal attention should be given to research on environmental and lifestyle factors and preventive measures for breast cancer.
- As a resource for the entire scientific community, it is essential that analytic capabilities be established that focus on the development of improved methodology for detecting steroid hormones and their metabolites and xenohormones in biologic media. New applications of methodologies should incorporate adequate numbers of and a diversity (different ages, ethnic groups, and hormone status) of women and remain sensitive, specific, economic, and field friendly for use in human population studies.
- The interrelationships of the endocrine system and growth factors with normal breast differentiation and development, breast cancer risk factors, breast carcinogenesis, and disease progression in human populations should be established.
- “Early” markers of breast neoplasia should be developed to serve as an intermediate measure or surrogate outcome in cancer prevention trials. Additionally, reliable experimental approaches for a systematic analysis of the impact of hormone metabolites, xenosterogens, and phytoestrogens on early and late occurring events in the multistep process of carcinogenesis should be developed.
- More information is needed about the effects of chemicals on human health. Identification of endocrine disrupting exposures and assessment of their potential impact on human breast cancer should be emphasized. Public policy decisions should consider that, given the challenge and expense of assessing the effects of chemicals on human health, reduction in use and the prevention of exposure can be economic alternatives.
- The potential role of estrogenic/antiestrogenic phytochemicals in the diet with respect to breast cancer risk should be established. The role of different types of fat and fatty acids; vegetables, fruits, grains, and legumes; micronutrients, such as vitamins A, D, and E and the carotenoids; alcohol; and caloric intake and expenditure in the etiology of breast cancer should be further evaluated.
- Efforts should be increased to inform women of all ages of the potential benefits that reducing alcohol consumption, eliminating cigarette smoking and exposure to tobacco smoke, increasing exercise, improving the diet, and other behavioral activities have on their health. Other potential preventive policies, including reduced use of and exposure to common toxic agents and persistent, toxic, environmental pollutants, should be identified and assessed. In addition, efforts should be renewed to encourage industry to find alternatives for the use of chemicals with hormonal activity and to educate the public on how to avoid exposure.

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