

editorial

¡Toward a New Era in Research, Education and Healing!

The reader of this issue of the Puerto Rico Health Sciences Journal will encounter the unusual situation that two authors have written several articles on a wide spectrum of topics. We felt compelled to explain the reader what the unifying common thread of all this work is.

InBioMed PR stands for Institute of Biochemical Medicine of Puerto Rico. InBioMed is a multidisciplinary health promotion initiative aimed at maximizing human wellbeing by the use of effective, non-toxic strategies. Our strategy toward the achievement of this goal focuses in advancing science through research and health education. The group is steered by investigators and clinicians with a broad range of specialties working together in an integrated manner. InBioMed is organized in three branches; a service branch, an educational branch and a research branch. Each branch is explained in more detail as follows:

The service branch includes healing and specialized consulting services. As part of this service component, InBioMed has created the InBioMed Optimal Performance program. This program was utilized by the Puerto Rican National Basketball team in the recent Tournament of the Americas pre-Olympic competition. We use the most updated information from the scientific and medical literature on integrated non-toxic therapies to optimize human physiology in order to enhance performance, improve and accelerate rehabilitation and speed up recovery legally. Our intervention helped our national team qualify for the 2004 Olympic Games in Greece.

The educational branch is directed toward physicians in training as well as practicing physicians. For the clinicians in formation we have created an interdisciplinary Integrative Medicine course within the Medical Sciences Campus, University of Puerto Rico. This course is entitled *Complementary and Alternatives Practices in Health and Healing: an integrative medicine approach*. This course gives an overview of various health belief systems in Complementary and Alternative Medicine (CAM) and examines the current trends in the utilization of some of these practices and their implications. Specific therapeutic practices such as phytotherapy, orthomolecular nutrition and supplementation, detoxification, acupuncture, physical manipulation and mind-body medicine are discussed. In addition, information resources of natural products for the health care provider are reviewed. This course includes the discussion of the paradigms in which the biomedical model is based, its strengths and limitations, and compares these with other healing philosophies and practices. The participants study the most common forms of healing practices, its theories, proposed mechanism of action, specific indications, expected results and available scientific evidence with special attention to human studies. We also discuss contraindications, adverse effects, interactions or interference between conventional and non-conventional practices. The justification for this course is related to the increased use of what is called complementary and alternative medicine. In 1997 the total visits in the USA to alternative medicine practitioner's exceeded the visits to primary care physicians. Given the increasing use of these practices, it is of importance to familiarize the health care professional with the most popular practices. The purpose of this course is to increase the awareness and understanding of the most common non-conventional practices for health and healing and specifically, to be aware of the potential benefits and risks associated with different therapies and become knowledgeable of the evidence that support each of them.

Integrative Medicine shifts the orientation of the medical practice from a disease-based approach to the healing-based approach. The healing approach tries to understand the disease state from a broader holistic perspective. The integrative approach does not necessarily antagonize the manifestations of disease, but rather aspires to assist the healing mechanisms within the body to restore health. This approach involves the whole human being (mind, body and spirit), his environment and community in the health restoring process. The integrative approach is based on a partnership between the patient and the practitioner within which the best therapies available for his condition will be used to stimulate the body's intrinsic healing abilities. The Integrative Medicine approach is committed to the practice of good medicine irrespective of its origin, either conventional or unconventional; it is based on scientific evidence and open to new paradigms. Integrative medicine does not reject conventional medicine nor uncritically accept unconventional practices.

The InBioMed Project of Continuing Education Program for Health Professionals consists of 25 courses and a series of conferences/workshops designed to update and integrate knowledge in specific areas usually not covered in professional training centers. These cutting edge advances in clinical research discussed in the InBioMed Education

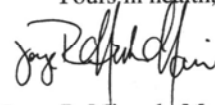
Program may improve the therapeutic outcomes beyond the current standard of practice.

Our main research interest is chronic degenerative diseases with emphasis in cancer. Our ongoing cancer project is called REC�AC II. This is a research initiative aimed at the development of effective, non-toxic cancer treatments. The group is steered by three investigators who suffered a personal loss due to cancer. REC�AC is cancer written backwards, meaning that our ultimate goal is to develop a protocol that will revert cancer. Our strategy toward this goal is by means of changing the biochemical conditions that promote, develop and sustain the malignant state in order to inhibit malignant cell proliferation, increase aerobic metabolism and achieve re-differentiation. REC�AC II project is inspired by Dr. Hugh Riordan's REC�AC project of the Center for the Improvement of Human Functioning in Wichita, Kansas. The conventional cancer treatment approach based on non-selective cell killing has not achieved a notable curative rate. We propose a shift in the present treatment paradigm, by targeting local cell environment in a selective nontoxic manner.

REC�AC II has three ongoing projects. The first project evaluates high dose intravenous vitamin C as a selective, non-toxic, anti-neoplastic agent. A related project is the determination of the pharmacokinetic parameters of high dose intravenous vitamin C in healthy volunteers and cancer patients. The third project examines the mitochondrial function of malignant cells. We have found mitochondrial abnormalities in malignant cells; it seems that these abnormalities produce the main signal that drives gene expression toward the malignant state. This idea comprises what we have called (*The Unified Bioenergetic Theory of Carcinogenesis*). This project aims to find ways to correct the mitochondrial abnormalities with the use of non-toxic nutrients and other strategies to provoke cell re-differentiation or cell death. The Bio-energetic Hypothesis of Carcinogenesis states that the altered energy metabolism of tumor cells can provide a target for a non-toxic chemotherapy approach. This theory is based in the work of three Nobel laureates; Otto Warburg, Albert Szent-Gyorgyi and Linus Pauling. We are currently working on a manuscript that will detail this theory and it is our expectation that these innovative approaches will generate new avenues of non-toxic and effective therapeutic interventions against cancer; also would like to close this presentation with the words of Albert Szent-Gyorgi:

"Discovery is seeing what everybody else has seen, and thinking what nobody else has thought".

Yours in health,



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Director of the Educational Branch



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