

Endocrine hygiene

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HEALTH

Health is a state of being which includes much more than the mere absence of disease. The responsibilities of health care professionals, too, extend far beyond the management of the disease. Health care providers focus not only on patients and drugs, but also work toward ensuring health in the community at large, using non-pharmacological means wherever appropriate. The aim of these interventions is not just to cure, but to prevent as well. One strategy to ensure good health is to maintain optimal hygiene.

HYGIENE

The word “hygiene” can be used both as an adjective and as a noun. Derived from the Greek *hygieine technē* “the healthful art,” and from *hygies* “healthy,” lit. “living well” (personified as the goddess Hygieia), Aristotle used the word as a noun meaning “health.”^[1] Today, as per the World Health Organization (WHO), hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases. Medical hygiene, therefore, includes a specific set of practices associated with this preservation of health, for example, environmental cleaning, sterilization of equipment, hand hygiene, water and sanitation, and safe disposal of medical waste.^[2] Hygienic behavior is an evidence-based way of life, which is relevant to virtually every facet of human existence and every medical field. Hygienic practices have helped prevent and control many infectious diseases in both community and hospital environments. This has reduced morbidity and mortality across the world.

BEYOND COMMUNICABLE DISEASE

While this definition has served us well, so far, the changing pattern of morbidity, with a shift toward noncommunicable disease, especially endocrine and metabolic disease, makes it incomplete. The existing definition, which speaks of preventing “spread,” assumes that all disease is communicable. However, the word “hygiene” has been suffixed to noncommunicable disease for many years. The phrase “social hygiene” has been used as a practical and pedagogic framework for over half a century now.^[3] Mental hygiene has been promoted as a means of achieving personal as well as community health.^[4] The contribution of emotional hygiene to medical morbidity and mortality is also well researched.^[5]

Other noncommunicable specialties have utilized the word hygiene to promote healthful behaviors and interventions too. Sleep hygiene, for example, promotes healthy, nondrug based ways of ensuring sound sleep.^[6] Occupational hygiene and industrial hygiene includes within their ambit, multifaceted coverage of workers’ health, and are the subject of current research.^[7] Information hygiene is another newly developed field of scientific study.^[8]

ENDOCRINE HYGIENE

Keeping these developments and the current health scenario in mind, we propose a new definition for hygiene: Conditions and practices that help to maintain health and prevent the development or spread of diseases. We also propose a novel term: Endocrine [and metabolic] hygiene, with the definition: Conditions and practices that help to maintain health and prevent the development of endocrine and metabolic diseases.

The purview and scope of endocrine hygiene are characterized by its wide bandwidth, encompassing all segments of society. Irrespective of gender, age, medical or psychosocial status, every individual has an endocrine influence on health. Endocrinology affects the lifespan and quality of life, of

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every individual. Endocrine disease, too, seems to become endemic to society. Many of the factors, which predispose to endocrine and metabolic disease are easily modifiable and amenable to prevention.^[9] The institution of simple practices and creation of favorable conditions can promote endocrine health and attenuate the impact of the endocrine disease. These practices and conditions also help in easier management and control of endocrine syndromes.

The framework of endocrine hygiene allows comprehensive coverage of all glands and encourages a holistic viewpoint of endocrine health and disease. It includes the activities undertaken as part of both prevention and cures and complements the pharmacological therapy. Endocrine hygiene is a way of life, a strategy, as well as a goal, meant to ensure good health. It emphasizes a health-centered, proactive approach to endocrine/metabolic systems, rather than a disease-centered, morbidity-oriented attitude. Thus, endocrine hygiene deserves focused attention as an independent concept.

HYGIENE AND ENDOCRINOLOGY

As defined by the WHO, hygiene includes both conditions and practices. Some components of this concept are included in Table 1. The utility of all these hygiene issues in promoting health and preventing disease is backed by evidence.

Nutrition, endocrinology, and metabolism are closely intertwined with each other. Endocrine hygiene, therefore, includes diet related practices at a macro level, such as food fortification with iodine and Vitamin D, limitation of availability/usage/consumption of salt, free sugar and tobacco, and provision of healthful foods in school canteens, and public places. Such policies have been implemented across the world and are backed by evidence. However, much more needs to be done to encourage acceptance of healthy nutrition practices as part of endocrine and metabolic hygiene.

Creation of appropriate environmental conditions helps promote healthy lifestyles as well. Availability, accessibility, and affordability of required facilities encourage physical activity, stress management, and sunlight exposure. Safe pedestrian paths, playgrounds, parks, outdoor gymnasiums, and sports field are examples of such condition, which promote endocrine and metabolic hygiene. Stress management can be facilitated by providing an unhurried, calm atmosphere in society, using tools like yoga. Exposure to endocrine disruptors may be minimized by the active involvement of industrial groups as well as consumers, to reduce the use of toxic pesticides and plastics, and limit pollution.

Table 1: Components of endocrine and metabolic hygiene

Diet related practices: Food fortification/processing
Relevant food fortification with
Iodine
Vitamin D
Limitation of availability or consumption of
Salt
Free sugar
Tobacco
Healthy foods in school canteens
Lifestyle related conditions
Facilities designed to encourage
Physical activity
Stress management
Sunlight exposure
Minimal exposure to environmental disruptor chemicals
Life stage specific practices
Counseling, to ensure healthy practices during
Puberty/adolescence
Contraception/preconception
Pregnancy/child rearing
Andropause/menopause

It must be noted here that the mere provision of optimal conditions does not guarantee healthy hygiene practices. Mass communication programs involving social marketing, and legislation (if necessary) are required to ensure adoption of practices conducive to endocrine health. One-way of highlighting the importance of this concept is to provide life stage specific promotive, preventive, and curative services, to encourage hygienic practices during vulnerable times. Early childhood, puberty/adolescence, marriage, preconception, pregnancy/lactation are vulnerable stages of life where simple interventions (mostly nonpharmacological) can facilitate a healthier future. Such practices become an important part of endocrine and metabolic hygiene. A focused approach, targeting specific segments of society with messages relevant to their age, gender, and reproductive/endocrine status, will help encourage utilization of available endocrine-friendly resources and stimulate demand for more.

None of the issues discussed above can reduce endocrine or metabolic morbidity in isolation unless accompanied by public health education. Each component requires the provision of a healthy environment, along with campaigns of practice healthful behaviors. We hope the usage of this term and practice of this concept will help promote endocrine and metabolic health, as well as control the pandemic of diabetes, obesity, and cardiovascular disease.

LEARNING FROM HISTORY

It must be noted here that basic aspects of hygiene that we take for granted today, e.g. maintaining asepsis during surgery, were not accepted readily, even though they were appropriate responses to challenging medical situations

of the time. For example, an elementary hygienic step, washing hands to reduce the incidence of puerperal fever, proposed by Semmelweis in 1847, earned him ridicule from the medical community, and may have precipitated his mental and cognitive decline, resulting in premature death. In fact, the term “Semmelweis reflex” is used to describe the reflex-like rejection of new knowledge, just because it contradicts entrenched norms, beliefs or paradigms.^[10]

With the current focus on endocrine and metabolic diseases, we are certain that the concept of endocrine hygiene will not meet a Semmelweissian fate.

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