The thyroid, the organ below the radar


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Thyroid disorders rarely get the publicity of more well-known disease groups, but can lead to tragic consequences, especially in mothers and children. Ensuring that they are categorized as a distinct group of non-communicable diseases, could make them easier to combat.

The idiom “so near and yet so far” can be applied, with some modification, to the thyroid gland. It is the most accessible of all endocrine organs and the most affected by disease—even surpassing afflictions of the beta cells of the pancreas, which cause diabetes, another endocrine disorder that is much more familiar to the general public. It is also one of the least well-known contributors to chronic conditions.

Anatomically, the thyroid gland lies in the front part of the neck, covered only by the skin, and lends itself easily to palpitation. Any enlargement is readily seen and physicians need not even touch it to make a diagnosis of a goiter. For that matter, laymen can do likewise with a fair level of certainty.

Thyroid disorders are amongst the most widespread medical conditions globally, their prevalence worldwide varying according to age, sex, the availability of iodine and definition of disease. Iodine deficiency in daily nutrition is the main cause of endemic goiter and hypothyroidism, an issue of extreme concern since one third of the world’s population lives in iodine-depleted areas.

Based on these facts, the World Health Assembly (WHA) passed a resolution in 2012, calling upon the World Health Organization (WHO) to aim to eliminate iodine deficiency as a public health problem.

This objective is particularly pressing since, although iodine deficiency is the main cause of endemic goiter and hypothyroidism, additional environmental factors, such as selenium and iron deficiency, pollution, stress, smoking, and obesity, are increasingly involved in the pathogenesis of thyroid disorders. These are further compounded by a multiplicity of genetic factors.

Educating policymakers about this lesser-known cause of poor health, and allowing patients to take a lead role, could help rally efforts to combat thyroid disorders.
A lack of awareness
Iodine Deficiency Disorders (IDD) with or without hypothyroidism comprises the largest bulk of thyroidal disease. If TDs were compared to an army, IDD would be the “legion” while the other thyroidal disorders, like the autoimmune thyroid diseases, thyroid cancer, inflammation and other developmental anomalies, would be mere “platoons.” This component is so large – and yet it seems to be hidden from public and official appreciation. In military surveillance lingo, IDD is operating “below the radar.”

Or, expressed more colloquially, if goiter is seen as the “tip of the iceberg”, IDD is the hidden large dark massive bulk of ice just below the surface. Remember the Titanic!

Goiter and thyroid disorders caused by IDD are often neglected, as they do not command much attention – and excitement – as the other non-communicable diseases (NCD) do. Talk of cancer and it conveys the image of a large necrotic mass of malignant tissues invading the breast, for instance. Talk of hypertension and it brings to mind the sudden cardiac arrest occurring in the office of an executive. But talk of IDD, and most people, and even health professionals, carry a number of misconceptions. How much awareness is there among policy-makers and the general public that the use of adequately-iodized salt provides a simple solution to IDD?

IDD and thyroid disorders have burdens of disease that impact on societies and economies in ways that may not be evident at first glance. Consider a woman with a goiter that she may have carried since her puberty and well into her reproductive years, living in a rural, poverty-stricken, iodine-depleted area. The woman might seek medical care only when a medical-surgical mission arrives in her town. Meanwhile, she has given birth to a number of children who have become educationally-challenged in their formative years in school, with consequent suboptimal productivity in adult life.

And that, precisely, is the tragedy of thyroid disorders. They do not boost our adrenaline levels. Thyroid disorders are so low-key, they do not bring us to tears – except perhaps in the case of families with a child born with mental disabilities or physical deformities as a consequence of the mother’s iodine deficiency.

Insufficient attention from policy makers
It is noteworthy that many thyroid disorders share key risk factors with NCDs—e.g., unhealthful lifestyle, a diet that is qualitatively poor as regards essential micro-nutrients (specifically iodine), including metabolic risk factors—but get even less attention. In the same vein, WHO Europe recognizes a comprehensive approach in tackling noncommunicable diseases (NCDs) that simultaneously: 1) promotes population-level health promotion and disease prevention programs; 2) actively targets groups and individuals at high risk, and maximizes population coverage of effective treatment and care; and 3) systematically integrates policy and action to reduce inequalities in health.

Despite this, WHO has no policy, other than that relating to iodine deficiency, to deal with the specific consequences of thyroid disorders and the upsurge in their incidence. In a world with ever-increasing globalization, with expectations of better health falling far short of desirable and appropriate goals, especially in developing countries, a major effort to counteract the tide of thyroid disorders and other NCDs is crucial.