

Scenario of Endocrinology in South Asia

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South Asia is sub-region of Asia comprising the modern states of India, Pakistan, Bangladesh, Nepal, Bhutan and the Maldives. With a population density of 305 persons per km, the region is most populous region with a fifth of all people in the world living here(1). Most of the region gained independence in late 1940s. Despite the efforts made by the countries to put up a modest health infrastructure, the health scenario prevalent in the region is not encouraging. Malnutrition and poverty combined with lack of public health infrastructure, unsafe water, unchecked migration, inadequate housing and poor sanitation have contributed to the prevalence of age old infectious diseases. Thus the region is well known for the double burden of diseases, the diseases of the poverty combined with the diseases related to life style. Changing life styles, excess use of alcohol & tobacco and hypertension have contributed to non-communicable diseases, especially, cardiovascular diseases, diabetes and cancers which are on the rise(2).

Endocrine diseases are increasing globally but they are galloping in Asia. The Recent years have shown a major shift in prevalence of non-communicable diseases such as diabetes, metabolic syndrome, polycystic ovary syndrome, coronary artery disease, dyslipidaemia, thyroid dysfunction, metabolic bone disorders etc. Diabetes mellitus is coming at a very fast rate in Asians making it a very high risk ethnic population. Our country is now the diabetic capital of the world with a burden of million(3). The rise in the burden of diabetes is projected to be 55 % globally as compared to a rise of 80% in India by 2030, thus in India the load will be 57 million by 2025 (3 fold rise). A small country like Pakistan will be 3rd in ranking by 2025. By 2025 the estimated diabetes 'bill' in India will be Rs 75.2 billion/year vs. health budget of Rs 24.7 billion/year. As compared to this approximately 14 million Americans (about 5% of the population) have diabetes and the resources with them are far higher. Asians are thus considered to be a high risk population (4). Since the rise in diabetes is increasing at an alarming rate especially in South East Asian countries, we need to gear up both with economic and human resources. To be effective, diabetes care requires the coordinated input of people with diabetes and a range of healthcare providers, including a diabetes nurse, dietician, psychologist, pharmacist, physiotherapist or podiatrist, among others. Nobody can

single-handedly manage the many and diverse aspects of diabetes. Close collaboration between these professionals is a key factor in providing optimum healthcare to people with diabetes. However, lack of human resources is often an important limiting factor. Countries in Asia, Africa and the Caribbean suffer an acute lack of human resources. India, for example, has a nurse-to-population ratio of 1:2250, compared with the ratios of 1:10 to 1:150 seen in European countries. An incessant brain-drain of skilled labour to the wealthy countries of North America, Europe and the Middle East exacerbates these problems. As a result, already underserved areas of the world face growing obstacles in creating and maintaining committed diabetes care teams(5).

Syndrome X or insulin resistance syndrome, the constellation of metabolic derangements named after its discoverer Gerald Revean in 1988 is also being increasingly recognized. It is a very common disorder in Asians with enormous consequences and has pivotal role in the pathogenesis of type 2 diabetes mellitus, obesity, coronary artery disease and hypertension with their respective negative health consequences (6). Currently recognized clinical manifestations of the insulin resistance syndrome include atherosclerotic cardiovascular disease, polycystic ovary syndrome (PCOS), hypertension, nonalcoholic steatohepatitis, endothelial dysfunction, hyperurecemia and type 2 diabetes. The disorder is also seemingly more prevalent in the Asians both in Asia and those migrated abroad (7). Some studies have demonstrated it to be more common in slums and underprivileged population while others have shown it be starting from childhood and it may be harbinger of prediabetes. The glucose intolerance and prediabetes has been demonstrated to be alarmingly high in some studies(8,9). PCOS, an endocrine disorder, characterized by overproduction of androgens, anovulation, and obesity is currently thought to be a sex limited version of the above described metabolic syndrome. Estimates on the incidence of PCOS range from 5 to 10 percent of women. PCOS symptoms usually begin at puberty, although many women do not seek help until much later in life. Biochemically it is associated with hyperandrogenemia, normal or elevated estrogen levels, and elevated luteinizing hormone (LH) secretion, with a raised LH-to-FSH ratio. Although there are no systematic studies on the prevalence of the disease it is also seems to be

on the rise in South Asia(10,11). Significant proportion of young girls has been demonstrated to have very high prevalence of glucose tolerance abnormalities(12).

Iodine deficiency disorders (IDD) has been a major cause of morbidity in the past in this region(13). Now since the IDDs are down hill in view international collaborative efforts by WHO/UNICEF(14), thyroid dysfunction other than IDDs in the form of thyroiditis, hypothyroidism and autoimmune thyroid dysfunction are on rise. Goitrogens may be cause of goiter in a significant number of individuals as there is high intake of goitrogens in India and neighboring countries.

Metabolic bone disease due to vitamin D deficiency is very prevalent in across all age groups. The vitamin D deficiency is attributed to low nutritional intake, poor exposure to sunlight due to overcrowding, dark skin and poor housing conditions(15,16). Hyperparathyroidism after correction of vitamin D deficiency is on rise in this country as correction of vitamin D deficiency may lead to unmasking of the condition. Still we find stone and bone disease as opposed to biochemical hypercalcemia in the West.

Panhypopituitarism due to postpartum pituitary necrosis commonly referred to as Sheehan's syndrome is a peculiar endocrine disorder in our population and is still involving a sizeable population(17). The disorder although related to poor obstetric care may have some other etiological factors underlying that need to be studied (18).

Traditionally medical profession has enjoyed high social status in terms of recognition. However with the free market forces, the disparity between private and public sector has increased. The emphasis on research is grossly inadequate. The only exposure to research is in the form of field work projects undertaken by the students as a part of the community medicine. The biggest challenge in medical education in South Asia region is restructuring curriculum in tune with the needs of the communities. The specialization in the field of endocrinology is available at few centers in the region and most of the teaching hospitals are still without a specialty of endocrinology. The boom in imaging modalities and molecular biological techniques which are pivotal to endocrinology are largely available in the private sector which is not accessible to common public. The academicians and leaders in the field of endocrinology have to plan setting of more training centers to produce well qualified and trained manpower, encourage research, promote mass awareness about prevention of lifestyle diseases and, devise cost effective investigations and therapeutic modalities.

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