

Nutrition transition in Pakistan

Madam, South Asia today is at crossroads. More than half (55 percent including injuries) of the disease burden is now attributable to non-communicable or chronic diseases like heart disease, stroke, type 2 diabetes and cancers that is more than communicable diseases (infections), maternal and child health issues, and nutritional deficiencies combined.¹ In Pakistan, cardiovascular diseases (heart disease and stroke) account for 34 percent of all deaths. Pakistan ranks sixth globally in the number of persons with type 2 diabetes, with diabetes prevalence being as high as 16.5 and 13.9 percent in urban and rural Sindh, respectively.¹ Future projections indicate a two- to threefold increase in diabetes over the next decades. The region today is undergoing a 'nutrition transition' that is further likely to exacerbate these trends. Nutrition transition refers to a move towards less healthy dietary habits leading to problems like overweight/obesity. Foods rich in vitamins, minerals, and micronutrients like fruits, vegetables, nuts and whole grains are being replaced by foods heavy in added/refined sugar, saturated fats, and salt. Economic growth in these countries, including Pakistan, has precipitated considerable adverse lifestyles — reliance on Western-style diet (fast food, soft drinks, processed foods, etc.), reduced physical activity, smoking, stress, rising inequality — all factors known to contribute to obesity and early onset of chronic diseases. The region is facing this transition without the social changes such as improved living conditions and better access to health services making this change essentially unhealthier. This is especially of concern given the fact that South Asians are known to be 6 years younger at the first heart attack compared to the rest of the world and are more affected in economically productive young ages. It can be especially tough on the poor who, after a heart attack, face a major lifelong illness and most of the times have to pay the health costs out-of-pocket. This can lead to further impoverishment and a vicious cycle of disease and poverty.

Pakistan and other countries of South Asia are now facing a double burden where overnutrition is present along with undernutrition. Overweight/obesity is also a form of malnourishment just like undernutrition that also indicates a lack of high quality nourishment. It has grave social and public health implications. It is usually assessed clinically by body mass index (BMI) that takes into account weight and height ($BMI = \text{weight in kg} / \text{height in m}^2$). It is easy to compute as it requires only measurement of height and

weight and is an approximate indicator of total body fat. The cut-offs of BMI for South Asians are lower than those for Caucasians because in the former, the health problems manifest at a lower level of BMI. Overweight for South Asians in adults is defined as a BMI between 23 - 24.99 kg/m^2 and obesity as $BMI \geq 25 \text{ kg/m}^2$ as opposed to the criteria of 25-29.99 and $\geq 30 \text{ kg/m}^2$ internationally. The disadvantage of BMI is that it does not give an idea about the distribution of fat: abdominal vs. subcutaneous because abdominal fat is a greater risk factor for chronic diseases and a key player in the development of these disorders. Other measures may be used to assess abdominal obesity like waist circumference or waist-to-hip ratio.

Obesity is spreading like a pandemic globally and is increasingly affecting not only adolescents and adults, but also children. Similar is the situation in Pakistan. A study in 2008 by Jafar et al.² showed that there was an alarming increase in the number of overweight and obese school-going children in urban Pakistan - almost doubling (3.0 to 5.5%) in estimated levels over a decade using World Health Organization/National Center for Health Statistics criteria as a reference. This has paralleled decline in physical activity in and out of school, particularly among girls; and also associated with inadequate diets, especially low in fruits and vegetables compared to the recommended intake of at least five servings (2.5 cups) of fruits and vegetables per day. Smoking prevalence is also common among the youth and existing data may be underreported, especially among girls.

Maternal nutrition may also have an impact on the likelihood of her child developing obesity or chronic diseases later in life. There is evidence that low birth weight is associated with an increased risk of hypertension, insulin resistance, type 2 diabetes and heart disease in adults. One of the hypotheses explaining this (thrifty phenotype hypothesis) states that reduced foetal growth results in increased vulnerability to these diseases because of adaptations made by the foetus in an environment limited in its supply of nutrients. It may be mentioned here that genetics also have a role to play. Another hypothesis points towards the role of genes (thrifty genotype hypothesis) that tries to explain how genes predisposing to negative effects like diabetes have been favoured by natural selection (since diabetes is very common). It suggests that such genes were historically advantageous where they made women of child bearing age fatter quickly in times of abundance to better survive times

of scarcity; but in modern societies with a constant abundance of food, this genotype effectively prepares an individual for a famine that never comes, resulting in obesity. Therefore, there most likely appears to be an interplay of genetic factors and diet/environment.

The government and the private sector need to come forward to develop cost-effective, large-scale, public health, community-based interventions, both in urban and rural areas that would reduce the health problems associated with nutrition transition like obesity. What is needed in Pakistan is nutrition labeling information for all foods particularly the fast foods, so that people can make informed choices about food they eat. The fast food joints should be discouraged from advertising or from giving promotions or gifts to children for the food they provide. Also education provided on the harms of using sugar-sweetened beverages like soft drinks and dangers of smoking. Besides,

facilities provided for physical activity and sports like more open play grounds and recreational parks. The primary care clinics in urban slums and rural areas should also be provided facilities for screening people for obesity, dyslipidaemia, hypertension, etc. This would assure that the nutrition transition in Pakistan is made healthier, obesity prevented and the fall-out of its effects avoided in terms of chronic diseases.

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References

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