

Tuesday, August 13 | 12:15 PM



Kerstin Brismar

*Professor in Endocrinology/
Diabetes Research at Dept.
of Molecular Medicine and
Surgery, Rolf Luft Center for
Research in Diabetes and
Endocrinology, Karolinska
Institutet
Stockholm, Sweden.*

Public Health And Today's Common Diseases - A Link To Architecture And The Built Environment

Non-communicable diseases have increased globally the last 30 years and are now the leading causes of death, of which 80% are premature (die younger than 70 years of age). These common diseases are cardiovascular disease, cancer, chronic respiratory disease and diabetes. Obesity and overweight are driving the increase in diabetes and hypertension, which are responsible for the increased mortality in cardiovascular disease including myocardial infarction, heart failure and stroke. The increase in impaired mental health and increase in many of the common cancer forms are also the effects of overweight and obesity.

According to WHO the community has responsibility to facilitate prevention of these diseases, thus the public health. Chronic stress increases the stress hormone cortisol which causes increased blood pressure, abdominal obesity and blood glucose. High cortisol also reduces melatonin, the "sleep" hormone, which reduces sleep and the circadian rhythm, and causes mental symptoms. Reduced sleep will decrease growth hormone secretion at night, which will impair cell repair and metabolism. Low growth hormone secretion leads to overweight and obesity. Exposure to daylight in the morning can normalize melatonin secretion and sleep. Exposure to outdoor daylight for some hours may also improve blood glucose as being physical active does. Physical activity every day has many positive effects on health such as lowering blood glucose and blood pressure, reducing the risk of obesity and improving mental health and wellbeing.

This implies that architecture and city planning could facilitate public health, if we make use of the knowledge and data available from clinical research.