

Editorial

Building a Healthy World for Tomorrow

Throughout its four billion years of life, earth has witnessed changes in environment (natural resources), human activity, demographic and health transitions. Life expectancy over last 55 years improved more than during the entire previous span of human history primarily due to decline in mortality, income growth, improvements in medical technology (immunization, discovery of newer antibiotics, microsurgery, medical imaging), improvements in public health (clean water, sanitation), progressive healthcare policies, pharmaceutical innovation, healthier lifestyles and scientific knowledge.

For centuries, communicable diseases were the main causes of death around the world. Concurrently we are also facing triple burden of disease. We are living under three shadows - one of infectious diseases, the new and growing shadow of non-communicable chronic diseases and, injury primarily due to motor vehicle accidents. Heart diseases, cancer, diabetes, mental illnesses became a real burden for health systems.

By the dawn of the third millennium, non communicable diseases are sweeping the entire globe. By 2020 it is predicted that Lifestyle Diseases will be causing seven out of every ten deaths in developing countries.

More people smoke today than at any other time in human history. One person dies every ten seconds due to smoking-related diseases. Tobacco is the biggest killer, much bigger in dimension than all other forms of pollution. Worldwide, 1.3 billion people currently smoke cigarettes or other products. In 2020 the global burden is expected to exceed nine million deaths annually. Of everyone alive today, an estimated 500 million people will eventually be killed by tobacco.

Up to 80% of cases of coronary heart disease, and up to 90% of cases of Types 2 Diabetes, could potentially be avoided through changing lifestyle factors. About 75 percent of cancer cases are tied in some way to how we live our lives. One-third of cancers could be avoided by eating healthily, maintaining normal weight, and exercising throughout life. As lifestyles reflect both individual choice and the norms and values of community, promotion of health lifestyles should be directed to both the individuals and the community.

Each year 10.5 million child deaths are preventable in the sense that these children would not have died if they had been born in rich countries.

Twenty-first century is known as the century of knowledge. There is much hope that in the near future we will have more DNA vaccines, better drugs that draw on advances in genetic engineering, ingenious new ways of targeting and destroying pathogens inside the body, a range of new pharmaceuticals as well as new gene and cell therapies to repair damage, to optimize health and to minimize future disease risk.

Greater understanding of the human genome will direct the development of medicines to help treat and prevent diseases over the next hundred years. The human genome consists of approximately 3 billion nucleotides of DNA sequence, most of which have now been identified in their linear arrangement on chromosomes. The genome contains several million individual DNA-sequence variants (or alleles), defined as differences in sequence at identical sites on homologous chromosomes. Technological developments now permit high-throughput testing of the several hundred thousand individual sequence variants necessary to provide adequate coverage of all the DNA blocks in humans to ensure that if a variant associated with disease is present, it will be found. Coupling the genotypic data with epidemiologic data that include many covariates, one is theoretically able to identify genes or gene environment interactions that predispose to both normal trait variation and disease processes. The genome sequence continues to teach us about new forms of genetic variation; in the past few years, for example, copy-number variation has begun to be recognized as a contributor to human disease. Copy-number variants can change the gene dose and thus cause comparatively subtle changes at the level of gene expression; they may influence susceptibility to complex traits.

There are now many large-scale efforts to uncover genetic effects and gene-environment interactions relevant to disease. The downstream functions of such common genetic variants will be potential targets for lifestyle or medical interventions. There is a strong need for more epidemiologic studies so that these new approaches can be exploited.

Advances in genetics will allow treatments to target the genes or specific proteins that cause disease. Gene therapies are being developed that aim to replace faulty genes and so reverse the effects of inherited disorders such as cystic fibrosis. The use of stem cells for the treatment of myocardial disorders is gathering pace. Breakthroughs in DNA technology have helped developing highly sensitive and specific diagnostic tests. The use of superconducting quantum interface devices (squids) will make it possible to diagnose heart, brain, auditory and visual problems. A nano diagnostic molecular detection tool is being created by researchers to detect and analyze molecules in the blood and other fluids using nano and micro cantilevers (smaller than the surface of a fly's eye) a promise to revolutionize the diagnosis of diseases such as cancer and opens up new applications in sectors as diverse as environmental protection, chemical analysis and food safety. Development of vaccine will see breakthrough in diseases like cancer and AIDS.

Hopefully we will sometimes report new victories over disease.

Turning point in history can be identified with certainty only with the benefit of hindsight. The signs are, nevertheless, that the International Journal of Health Sciences (IJHS), a Qassim University Scientific Publication, launches at a key moment in the history of mankind's struggle against diseases (lifestyle, infectious, injury, etc.) affecting millions of people globally. The aim of IJHS is to publish scholarly articles, interesting and informative reviews on any topic connected with health (medical, dental and pharmacy) sciences.

Health is more than a medical issue. There is a great opportunity to capture the shining heights of partnership to build a healthy world for tomorrow. Let us rise to the responsibilities of the new world - a brave new world that is united against the disease - a world that we can pass on to our progeny with the knowledge that we rose to the responsibilities of this new age.

Medical Journals have a great responsibility to channel the enthusiasm, activity, and expertise of various global health players into a cohesive and compelling public health agenda that brings visible and measurable benefits to humanity.

At Qassim University, every day offers opportunities, challenges and growth. IJHS will continue to take full advantage of every technological innovation that will allow us to communicate new work to world.

We are dedicated to delivering what medical community has come to rely on and expect. We shall share a human stake in the development of global health.

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