Technological Advances and their Benefits in Medicine

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Major developments in medicine have occurred after the advance of the Industrial Age, where the microscope was invented, followed by knowledge of our cells, tissues, and our relationship with nature's bacteria and so on. The 20th century gave us knowledge about HLA typing and immune compatibility, (autoimmunity vs. normal immune response, and transplantation), our DNA and its mechanisms of control, genetics and mutations. Currently, we know how to change mutations, have already understood how we can fight a winning battle against some cancers, and down to the molecular level, how our food and environment affects our DNA.

All these advances were thanks to better computational power, more advanced technologies (Real Time PCR, Microarrays), more accurate imaging systems (Echo, MRI, PET) and globalization of knowledge in the academic fields.

In addition to all this, technology has also entered our personal life in helping us in the health sector.

There are many advantages of new technology and here I can mention just a few:

- Health Record archiving: in the US, for example, a person's health records are archived in a computer that can be seen by his doctor at any time. These records can also be shared to another health facility at any time on request. Your whole medical history is, therefore, available even if you are abroad. Recently, mobile phone applications (Apps) have also appeared, that do the same thing for you.

- Quick data availability for the doctor ensures better care. Laboratories have now a Laboratory Information System (LIS) which transfers their data to the hospital floors and sometimes using the internet even to the patient's or doctor's mobile phones!

- "Telemedicine" as it is called, is taking patient vital signs via a device the patient wears, transmitting this to an App in a mobile phone, and finally transmitting this data to a monitoring person, be it the doctor in charge or emergency services. Therefore, if a known cardiac patient suffers an ischemic attack, paramedics will arrive without delay.

- More computational power, in addition to globalization and competition has led to cheaper yet more powerful diagnostic tools, be it lab analyzers that use less blood for more tests or be it imaging machines that take less time to provide vivid details of our bodies.

Like everything else in life, there are disadvantages for all this advance. One of them is that they rely too much on computers that are linked via a network. Hacking is a worldwide threat to anything that uses a computer. In 2015, the second largest insurance company in the US was hacked; only basic data was stolen and not the patient history and illness information. But this proves that information available out there is still reachable. Another issue is our reliance on the internet so much that if God forbid something was to happen to the internet presence, a lot of data will not be available for us.

However, one cannot let fear guide ones future plans and goals. That being so, we will continue to rely on our current technologies, see where the pitfalls may arise and hopefully improve on the security and functionality of these systems. It's logical to say that we didn't come all this way to stop now.