NEWS IN BRIEF

Smartphone-based Medical Research

On 8th March 2015, 'Apple' launched Research Kit. This is an open source platform to design medical research based on apps available on the iPhone or the Apple watch. How does this work? The phone is equipped with sensors which can take measurements and track movements and record data. Researchers design a study on a particular disease, say Asthma or Parkinson's disease. Patients interested in participating in the study in any part of the globe can download the app onto their phone. They record data in real time. The data could be anything from symptoms like mood, sleep, cognition which the patient records, to actual physiological measurements. For example, balance and walking assessment can be recorded using the accelerometer in the phone, speed and dexterity of fingers by using the touch screen, and pitch and tremor in the voice can be assessed by asking the patients to speak into the phone.

There are two major advantages to the idea. The number of patients that can be recruited is huge, and a continuous real time data collection can be done throughout the day and night. It allows people to track their activity, their exercise levels and mood on a real time basis. Privacy is maintained and identity of patients is removed from the data before reaching the researcher. Patients have a choice about whether they want the data to be used only by a particular study or shared by researchers globally.

Five apps have already been launched one each to study asthma, breast cancer, cardiovascular health, diabetes and Parkinson's disease. When the Parkinson's disease app was launched, 680 people downloaded it in the first three hours. It is remarkable when you realize that the largest study on Parkinson's disease had 1700 patients. The current limitation is that the platform is limited to iPhone users, but this will surely change. There may soon be a revolution in the way medical research is done. (*Nature 10 March 2015; https://www.apple.com/researchkit/*)

Sugar Guidelines From the WHO

A new WHO guideline has recommended that adults and children restrict their daily intake of free sugar to less than 10% of total calories. A further reduction to 5% (25 g or roughly 6 tea spoons of sugar) is suggested to provide additional health benefits. The WHO says that there is now strong evidence that restricting sugar intake to below 10% reduces obesity and tooth decay. Free sugars refer to sugars added in foods and natural sugars in fruit juices, honey and syrups. Most of the sugars consumed today are 'hidden' in foods not perceived as sweet. For example, a tablespoon of ketchup has 4 g of free sugar, and a can of a sugar sweetened soda drink has 40 g of sugar. It does not refer to sugars in fruits, vegetables and milk because there is no reported evidence of adverse effects of consuming these sugars. (*http://www.who.int/mediacentre/news/releases/2015/sugar-guideline/en/*)

Health in the Union Budget

The Government has slashed its health outlay in this year's annual budget by 20%. Already India spends a paltry 1% of its GDP on health compared to 3% of the GDP in China, 4.1% in Brazil and 8.3% in USA. To meet targets set by the "National Health Assurance Scheme" proposed by the new government, at least 2.5% of the GDP needed to be allocated to health. HIV activists are also up in arms since the budget has included a 30% cut in the HIV/AIDS program budget. The opening of new AIIMS in Jammu & Kashmir, Punjab, Tamil Nadu, Himachal Pradesh and Assam may not solve the problems rampant at the grass root level. Import duty on medical devices has not been increased, and on ambulances has been decreased. India's health care industry is growing at an annual rate of 15%, but is dominated by the private sector while the public health system needs much improvement. (*The Hindu 1 March 2015*)

Smart Syringes

The WHO has released an evidence-based policy document to help countries tackle the problems of unsafe injections. It is estimated that 16 billion injections are given annually worldwide. Of them 90% of injections are given to deliver medications, 5% are for immunization, and 5% for sundry procedures like blood transfusions and contraceptives. 40% of the 16 billion injections were given with reused injection equipment leading to 21 million new HBV cases (32% of all new cases), 2 million new HCV cases (40% of all new cases) and around 0.26 million HIV cases (5% of all new HIV cases).

The four areas which need to be targeted include avoiding reuse of injection equipment, accidental needle stick injuries, proper disposal of sharps, and the overuse of injections as medication. Smart syringes or safety engineered syringes are now well established and available in global markets. They include devices which have a weak spot in the plunger which causes it to break on being pulled back. Some have a metal clip which locks the plunger; in others the needle retracts back into the syringe or a hood slides onto the needle preventing needle stick injuries. (*http://www.who.int/mediacentre/news/releases/2015/injection-safety/en/*)

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