Wearable biosensors for monitoring patients

Sir,

One of the problems in patient care is lack of continuous monitoring of vital signs in those who need health care and long-term treatment. Wearable biosensors are an example of new technologies in the health care area and provide opportunities for continuous monitoring of vital signs in patients, athletes, premature infants, children, mental patients, people who need long-term care, elderly, and those who live in remote areas and do not have access to health care services. A textile-based wearable system for vital sign monitoring in cardiac patients has been suggested. This vest is made of a conductive fabric which can measure heartbeat and breathing rate during activity or at rest and send information to a processing center. This way, people's health can be monitored after discharge from the hospital.[1] Patients' referral to healthcare centers leads to waste of time and money for them and the health system. Remote monitoring using smart biosensors can decrease patients' referral to health centers up to 30% [Figure 1].[2]

The high efficiency of wearable sensors in physical medicine and rehabilitation has been established in previous studies.[3,4]

In Iran, researchers used metal nano-particles and designed a smart dress which can receive body's vital signs. Some sensors and processors are embedded in this dress by which body's vital signs such as heartbeat and temperature are received and reported to the physician in emergency and critical conditions.[5]

So, wearable biosensors with the capability of continuous monitoring of vital signs and feedback to the user will be significantly effective in prevention, diagnosis, treatment, and on time control of diseases.

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Conflicts of interest

The authors have no conflicts of interest.

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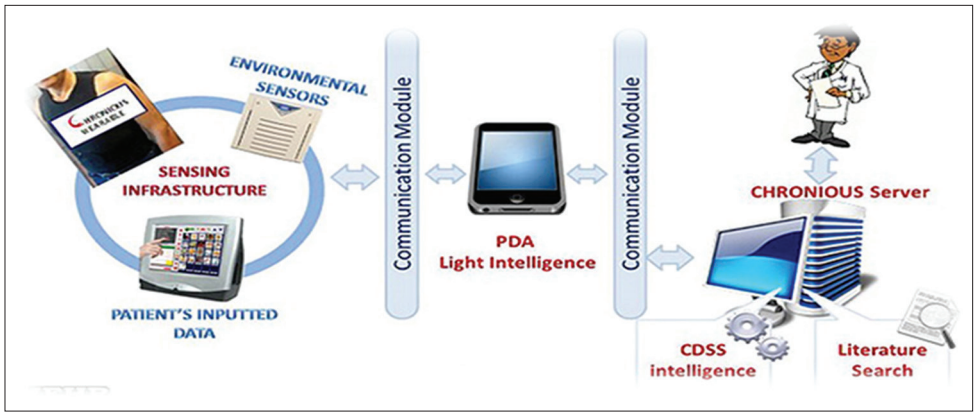

Figure 1: The process of monitoring patient by wearable sensor jacket

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