Digital Health: Is it the future for our lives?

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DIGITAL HEALTH: IS IT THE FUTURE FOR OUR LIVES?

Digital health has affected health personnel's routine, because new technologies, for monitoring patients in their homes and improving the patients' quality of life with new devices and applications, have reduced the unnecessary hospital visits, which increase the number of infections and other hospital-acquired health problems.

The digital health includes a variety of different parts and it serves a lot of different aspects of health personnel's and patients' routine:

- Telemedicine and Telehealth,
- Healthcare mobile applications
- Remote patient monitoring
- Individual-level and population-level data analysis
- Social networking.[1]

According to US Food and Drug Administration, digital health helps society and people to reduce costs, improve access to health system, help health personnel to improve the quality of services and to reduce inefficiencies.[2] Digital health can be applied to different specialties, because the needs, the applications and the devices are different.

In obstetrics and gynecology field, the wound and postoperative care, in the field of infections and in many other specialties, the digital technology helps through several modes:

- mobile Health (mHealth): In gynecology specialty, a very important part is the family plan. On this section, there are plenty useful mobile applications, which assist doctors, health personnel and family to prevent a lot of health issues, which are serious potentially.[1]

In infection field, mHealth contribute to health system's improvement and the reason is the personnel's workload reduction and the errors, which are a result of paper reporting.[3] The field of disease and infection surveillance is very competitive, because the healthcare personnel must detect and report rapidly, especially during the period of epidemic outbreaks or pandemia.[3] So, the use of connected diagnostics or special applications, which can collect epidemiological and clinical data, increase the efficiency of the mHealth use.[4]

- live Interactive Video: This is a very useful and cheap telemedicine tool, which can be provided by a smartphone and it helps people, who live in rural or smaller towns, even in villages. The healthcare providers can advise these people with no need of difficult or long transportation. In gynecology specialty, the videoconference can be applied in hospitals, and many different healthcare providers can take life-saving decisions under difficult circumstances, e.g. diabetes, obesity, high blood pressure, and blood clots, blood pressure, fundal height, and fetal heart rate.[1]

- Store-and-Forward: During a health provider's visit in the hospital or in a house, it is a possibility to do some examinations, e.g. an ultrasound, an examination with stethoscope, an electrocardiogram and all these examinations collect a lot of data. Nowadays, there are plenty of devices, which give the possibility to transfer via e-mail a big number of data. This

is very important for healthcare providers and patients, because they can even diagnose a serious health issue.[1,5]

• <u>Remote Patient Monitoring:</u> In this type of monitoring, the use of smartphone and many wearable devices are necessary, so it is a combination with mobile health and store-and-forward. The people have the opportunity to monitor their vital signs, such heart rate, blood pressure, oxygen saturation, wherever they are and they are able either to send these findings to their doctors or their doctors can read these findings on the health platforms, where these wearable devices are connected.[1,5]

• <u>Data analytics:</u> In many fields, including the sector of health, big data of people are collected and analyzed, in order to predict some outcomes and   complications.[1] This process helps the healthcare systems to improve and to provide better solution in the field of prevention.[1]

Digital health gives to all people, healthcare providers and society, the opportunity to monitor their health condition in many ways. Although, many people, who are very active in social media, try to promote a lot of medical advice or procedures, which may be dangerous, if untrained people try to do these procedures. Indeed, there are channels for healthcare professionals, e.g. on YouTube or on Twitter, but they must be careful for the cases and procedures, which they apply.[1] On social medias, there are some limitations, which everyone should respect. There are plenty of legal and licensing issues, some medical information is incorrect or the untrained person may take wrong decision.[1] On the other hand, some studies have shown, that the healthcare providers, who are active on social media, have the belief that their patients have better education on their own health issues, increased compliance and this leads to better outcomes for their health.[1]

Nowadays, the digital health offers a lot of benefits on every society, because the patients, the insurance companies and the healthcare professionals benefit by the new era of the healthcare technology access.[1]

• ***Benefits for Patients:[6]***

✓ First of all, the patients reduce the unnecessary transports.

✓ The digital health improves time from work.

✓ The emergency departments have fewer unnecessary visits.

✓ Through data analytics, the outcomes are improved and the given solutions for prevention are more targeted.

 Benefits for insurance companies:[7]

✓ The digital health helps the insurance companies to expand to smaller and rural cities and they can expand their client network.

✓ The digital health gives the opportunity to the insurance companies to collect big data via data analytics. This process helps the companies to have more targeted and attractive health insurance products.

Benefits for healthcare professionals:[7]

✓ The digital health provides access to aggregate data via data analytics, so the healthcare system can organize some actions in the field of the prevention.

✓ The hospital readmissions are reduced, because the less serious health problems are treated at homes, through telemedicine or homecare services.

✓ The number of infections is decreased.

✓ The healthcare system is able to treat and monitor more patients.

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