



APPLICATION OF TELEMEDICINE AND DIGITAL HEALTH DURING THE COVID-19 PANDEMIC

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ABSTRACT

Artificial intelligence, digital health, telemedicine, portable sensors, virtual reality - these new technologies will completely change the way patients and doctors perceive healthcare. The coronavirus pandemic has caused an explosive increase in the need for digital services, including those related to health and medicine. Our experience is part of a two-year project in telemedicine, digital health and intelligent medicine to provide equal access to health consultations with various specialists of chronically ill and quarantined people in order to avoid contact and travel

Key words: telemedicine, digital health, artificial intelligence, COVID 19

INTRODUCTION

Artificial intelligence, virtual reality, digital health, telemedicine, portable sensors, virtual reality - new technologies that will completely change the way patients and doctors perceive healthcare. The coronavirus pandemic has caused an explosive increase in the need for digital services, including those related to health and medicine. New digital technologies in some medical activities will allow medical professionals to focus on treatment and patient care and avoid the repetitive part of their daily work. Digital health solutions can be implemented better, faster and cheaper.

PURPOSE, TASKS, HYPOTHESIS

Objective: This paper is to present our experience in the use of telemedicine, digital health and the possibility of introducing new technologies to respond to and deal with the epidemic of COVID 19.

RESULTS

Telemedicine is the remote provision of health care, such as health assessment or medical consultations with the use of telecommunications

infrastructure. It allows healthcare professionals to evaluate, diagnose and prescribe treatment to patients through a widely available technology, such as video conferencing via laptop or smartphone without the need the patient to visit the doctor's office.

Telemedicine is constantly becoming an increasingly important part of the medical practice given the desire to reduce the cost of medical care. It saves time for the patient, who has the opportunity to discuss their health when it comes to a milder and non-emergency condition, instead of visiting a primary care specialist or emergency unit.

The advent of COVID-19 in 2020 and the need to address it effectively necessitated the rapid introduction of telemedicine and digital health applications into medical practice.

Our experience is part of a two-year project in telemedicine, digital health and intelligent medicine. Medical examinations and tests were performed, which include the following activities and procedures - examination of the lungs,

examination of the cardiovascular system - pulse, blood pressure, ECG, ultrasound, blood oxygenation, body temperature, body mass index, ultrasound of abdominal organs, prostate, breast, thyroid.

The active medical activity began in April 2020 with the above activities. During this period, more than 1,600 people were examined. The ratio of women to men is 55% women 45% men.

The examinations revealed the following diseases:

- Cardiovascular diseases were found in 45% of the individuals
- In 25% - problems and diseases of the kidneys and prostate
- In 15% - problems and diseases of the thyroid gland
- In 25% - lung problems and diseases
- 55% have more than one disease.
- Moderate to severe obesity is found in 45%

More than 30% of the patients had an additional consultation with medical professionals.

The use of information and communication technologies ensures equal access to health consultations with various specialists of chronically ill and quarantined people in order to avoid contact and travel, whose activity is directly related to the new epidemic situation caused by COVID 19.

Our practical experience has shown that in the near future more and more applications for telemedicine will find place in the medical practice to deal with the pandemics, as well as in other medical fields and specialties.

CONCLUSIONS

The new epidemic situation caused by COVID-19 is already further catalyzing the faster application of telemedicine, digital health in most medical specialties and activities.

This ongoing global crisis has forced healthcare institutions and regulators to turn to alternative ways of providing healthcare, while limiting exposure to the virus. Telemedicine presents the ideal solution to these problems by restricting the movement of patients in hospitals, allocating hospital capacity for important cases, while limiting the spread of the disease.

The development of the digital healthcare subsystems in Bulgaria has a serious potential for improving the access to health care and their quality, as well as for increasing the efficiency of the health system.

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