

# Health Promotion in Patients with Chronic Diseases

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## Abstract:

Chronic diseases are on a steady upward trend, they have replaced epidemics, infections, the lack of sanitary conditions as causes and affect the patient's quality of life as defined by the World Health Organization. In recent years, the use of new technologies makes it faster and more immediate to inform health professionals about the patient's health status, thus contributing to the reduction of diagnosis and hospitalization time, but also to the easy and immediate recall of medical data at any time and from any point, reducing travel and the risk of infection in times of pandemics and other epidemics. It aims to prevent, maintain and promote health and prevent the worsening of disease as well as treatment in individuals, the family and the community. The new Telemedicine model significantly improves access to the care provided and its quality by ensuring potential continuous remote monitoring while making the patient a participant in the decision-making regarding their health. The term Telemedicine is considered to highlight broader goals that cover the production of good health and the support of Public Health, including informing and educating the public, collecting and managing statistical and epidemiological data, connecting with other agencies and health care services that are involved in patient management. Thus, the nursing units will not be isolated incident response centers. On the contrary, the applications of telemedicine contribute decisively to the formation of open centers for the provision of medical care, where hospitals, health centers and practices can be connected to each other, creating an integrated network for the provision of medical services. Particular emphasis must be placed on the utilization of existing structures and the creation of new Primary Health Care infrastructures, development of regional telemedicine centers and home care for groups of patients with chronic diseases who cannot move or have access to health services due to other difficulties.

**Keywords:** chronic diseases; e-health applications; quality of life; telemedicine; public health

## Introduction

According to the World Health Organization (WHO), the 4 main categories of chronic non-communicable diseases, which are chronic conditions of deviation of the body from its normal function, are cardiovascular diseases, cancers, chronic lung diseases and type-2 diabetes. Other chronic diseases are arthritis, arterial hypertension, dementias and Alzheimer's, thyroid diseases, mental diseases [1]. Chronic diseases cause irreversible damage that is difficult to improve and affect the patient's quality of life as defined by the WHO. They are on a steady upward trend and have replaced epidemics, infections, and the lack of sanitary conditions as causes. In modern times, they cause more deaths than all other causes combined, and this development is also the result of a change in the way of life, in the way of feeding the modern man, as well as an environment that is toxically polluted. It has been proven that the patient's lifestyle plays an important role in chronic diseases, such as movement, diet, mental health, employment, job adaptation [2,3].

According to the UN Sustainable Development Goals, by 2030 premature mortality from non-communicable diseases needs to be reduced by a third, through prevention and treatment, as well as promotion of mental health and well-being. Thirty-five million adults suffered from diabetes in Europe in 2011 and this number is expected to increase by 23%, that is 43 million patients in 2030 [3,4]. EU health care costs for chronic diseases are €700 billion, that is 70-80% of total health care expenditure while life expectancy still varies by around 8.5 years between EU countries [3,4].

## Chronic Diseases and Third Age

The period of the 3rd age has been described as a period of weakened immunobiological vigor, which is the weaker immune response to stimuli and is directly linked to chronic diseases. At a global level, the age group over 80 years old, often called the 4th age (or super-old age) is also of interest, whose percentage has multiplied resulting in a further aging of the elderly population that intensifies the

problem of social coping with old age and increases the number of patients with chronic diseases. In addition, a person's socioeconomic status affects their exposure to degraded environments, since poorer people are more exposed to them resulting in chronic disease [5]. Aging, according to research so far, is linked to disease in the following main ways:

- a) Different response to the disease
- b) There is a direct correlation with certain chronic diseases
- c) Some chronic diseases show an increased incidence in the elderly, such as pneumonia and cancers
- d) These patients adapt their lifestyle to the limitations imposed by the disease and experience constant anxiety and insecurity about the future. That is why the role of health professionals is particularly important and they must take into account the psychological parameters that accompany chronic diseases and operate based on humanitarian values [6].

Additionally, older people living alone are at greater risk of isolation and need more support. As age increases, more and more elderly people live alone. According to research, the probability of dementia in people over 65 years of age in Europe almost doubles every 5 years [3,4]. Also healthy life years (HLY) are already showing a decrease since 2006, 1.6 years for men and 3 years for women and although the total number of life years for men is less than that of women, all indicators for life expectancy health studies show that men spend more years of their lives in good health and functional capacity than women [4]. By the term functional capacity we define the individual's ability to cope with the demands of everyday activities. Functionality is considered a primary component of a person's quality of life that is a strong indicator of aging and a way of assessing the effect of physical and environmental factors on the person. In many studies it has been shown that the decrease in functionality is due to biological, psychological and social factors and requires increased use of health services [4].

### Health For One and All

In order to be safe and ensure "health for all", as our times demand and the World Health Organization (WHO) urges for sustainable prosperity, the health strategy must enter a completely new basis, not limited only in the matters of hospital and medical-pharmaceutical treatment of the disease, but to emphasize health education, prevention, shaping conditions but also practices, lifestyles and values, which contribute to the protection and restoration of health [2]. According to recent research, the three most important quality criteria in health for citizens are the training of doctors, effective treatment and the use of modern technology applications [7]. With the term Telemedicine we mean the offer of medical services from a distance, using telecommunications. The new model significantly improves access to the provided care and its quality while making the patient a participant in the decision-making regarding their health. The implementation of e-health services can contribute to providing better patient-centered care, as well as reducing the cost of health services [8]. The obligation of the users of the telemedicine system is to protect the privacy of the medical information they collect and process, to maintain the integrity of the data and its accuracy, while the telemedicine systems must meet the requirements for security, reliability and ensuring the

privacy of personal data. In any case the basic requirements are: the data and information must be correct, not falsified and accessible whenever needed, only by authorized users [8]. Electronic Health includes electronic patient records, electronic health records, electronic prescribing, Telemedicine services, personal portable communication systems for patient monitoring and support, collaboration between patients and health service providers, data exchange between institutions, health information networks [9].

### Telemedicine In Chronic Diseases

The main purpose of Telemedicine is the prevention, preservation and promotion of health, as well as the prohibition of the worsening of the disease and the treatment of diseases in individuals, the family and the community. Telemedicine in chronic diseases is a lifesaver for many people who require long-term follow-up and continuous medical visits and diagnostic tests. In this way it is achieved:

- 1) The upgrading of patient care and quality of life [9].
- 2) The reduction of treatment costs, since hospitalization is needed only for the necessary minimum period of time [9].
- 3) The satisfaction and response of the patients from the provided care of the health services which is very important, especially in the case of the potential continuous remote monitoring, which the e-health applications ensure [9].
- 4) The faster and immediate information of the doctors about the patient, thus contributing to the reduction of the time of diagnosis, follow-up and hospitalization, as well as the easy and immediate recall of the medical data at any time and from any point [9,10].
- 5) The reduction of patient movements and the risk of infection in times of pandemic and other epidemics [9,10].

### Telemedicine In Practice - Results - Discussion

According to the study of previous research after monitoring intervention of chronic patients with Telemedicine applications, it definitely takes 6 months to have evaluable results [11,12]. Telemedicine has the potential to improve the image of patients with diabetes but there is no serious impact on patients with hypertension and COPD [13]. The effectiveness of the use of Telemedicine applications in the monitoring of chronic patients may depend on factors related to the examined population, the severity of the chronic condition, the course of the participants' illness, the operation of the intervention, the health system that collects the intervention information [14]. The use of e-health applications seems to be usually made by patients of higher social status, relatively younger and highly educated [15]. The constantly increasing elderly population makes the use of Telemedicine an urgent need and it is critical for the future of health services that this model is easy for widespread use in Family and Community Nursing [15,16]. The use of Telemedicine in combination with usual Health Care is effective in diagnosis, feasibility, management of chronic diseases, improvement of health quality indicators and patient satisfaction [17]. As it was found during the pandemic, diagnosis and treatment were needed from a distance without physical presence. Future research is needed to reduce barriers to increasing the use of Telemedicine in older people [13,18].

Patients and health care providers recognize the benefits of Telemedicine that outweigh the barriers in many settings [19]. In the

widespread use of electronic health applications, the effects on doctor-nurse-patient relationships must also be calculated. In a survey of patients with chronic rheumatic diseases and musculoskeletal diseases, Telemedicine was not widely used, since 38% refused to use it due to "non-personal contact" [20]. Monitoring systems for people with chronic respiratory failure are increasingly being used with promising results that have yet to be elucidated, but first legal, economic and organizational issues need to be determined [21,22]. The method of real-time Teleconsultation in the time of pandemic benefited patients with heart disease in their continuation of care, since the results were similar to the in-person visit, improving patient satisfaction and access to health services. This may be a common way of providing services and not the exception. That is why digital systems should not be limited to citizens with expertise in them but should be adapted to the abilities of less familiar patients [23]. Also a significant reduction in health care consumption was observed using telemonitoring in elderly Parkinson's patients [24] while in patients with mental illness the use of telemeeting during the pandemic resulted in a reduction in anxiety and depression based on care measures [25,26]. With the widespread use of Teleconsultation by endocrinologists in the Health System, efficiency and safety for patients increased e.g. with diabetes, reduced time on specialty waiting lists, solving capacity issues and filling Primary Care gaps [27]. In the use of Telemedicine in remote areas, in patients with limited mobility and in patients with chronic diseases, the advantages are recognized by health workers and patients, but more improvement is needed in the effectiveness of remote medical services in elderly patients [28].

## Conclusions

The continuing revolution in the field of new technologies brings about significant changes in the way we perceive the meaning and content of medical care. The term Telemedicine is considered to highlight broader goals covering the prevention of disease progression, the production of good health and the support of Public Health, including informing and educating the public, collecting and managing statistical and epidemiological data, and linking with other health care agencies and services involved in patient management. Telemedicine applications can contribute decisively to the formation of open centers for the provision of medical care, where hospitals, health centers and clinics can be connected to each other, creating an integrated network of medical service provision.

Finally, we conclude that each state has an interest in creating the appropriate conditions so as to keep the numerous group of Third Age individuals integrated into the Community as a living cell. Emphasis must be placed on the utilization of existing structures but also on the creation of new primary care infrastructures, with the aim of improving the services provided and strengthening their diagnostic character, improving the quality of life and increasing the years of healthy life for women and men.

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