
Integrative Medicine as a New Treatment Model and the Future of Health Care Systems in the World in the Context of Rare Diseases

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Abstract:

Purpose: This article aims to present integrative medicine as a new treatment model representing the future of health systems globally, including rare diseases.

Design/Methodology/Approach: The article consists of three parts. The first one covers the definitions of integrative medicine as well as other terms. The second part of the study deals with the model of patient treatment in integrative medicine. It draws attention to a multidisciplinary and holistic approach to the treatment process. The third part, showing the possibility of using an integrated model in the management of a rare disease, refers to the example of childhood CLN2 dementia. The fourth part of the article focuses on the main challenges facing health systems in the world.

Findings: Integrative medicine, combining conventional medicine with alternative medicine, is an innovative approach to the treatment process. It results from the need for individualized, holistic treatment of the patient. Integrative medicine is a challenge and the future of health systems globally in establishing interdisciplinary cooperation and educating medical professionals at the primary healthcare level. The integrated model responds to the needs of people suffering from rare diseases and their families.

Practical Implications: Modern medicine should focus on improving communication between all participants of the treatment process and shaping good doctor-patient relations. Planning and policy making should involve conventional and alternative medicine practitioners, as specialists in both medical disciplines would be crucial in integrating health services. These services should be adapted to the culture and requirements of a given community. The integrated model addresses the challenges of rare disease management in the context of the patient and his family.

Originality/Value: The concept of integrative medicine shows that the approach is justified in managing rare diseases, treated both causally and symptomatically. Furthermore, it explains the need to consider the perspective of the patient and his family - caregivers and healthy siblings.

Keywords: Integrative medicine, conventional medicine, alternative medicine, treatment model, health care system, rare disease management, CLN2.

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1. Introduction

Modern healthcare focuses mainly on prescribing medications for a specific disease entity rather than on a holistic approach to the patient. This situation is especially true in the current coronavirus pandemic, where medicine is almost exclusively focused on fighting an infectious disease epidemic. The vision of a new approach in health care, patient-oriented, treatment-oriented, including conventional and complementary therapies, is integrative medicine. There are many definitions of this concept. Their similarities confirm the importance of the therapeutic relationship, concentration on the whole person and their lifestyle, not only on the physical body. Different views of integrative medicine express concern for healing and a willingness to apply all appropriate therapeutic approaches, both conventional and alternative medicine (Maizes, Rakel, and Niemiec, 2009).

Integrative medicine can deal with patients with complex comorbidities, including mental illness and addiction or the so-called rare diseases. Such patients are more expensive to care for and account for most health care expenses, but with limited benefits. The new treatment model aims to provide consistent medical care that is more cost-effective and produces better outcomes (Hodgson, Moore, Acri, and Treisman, 2020).

To sum up, the integrative approach, combining therapy and prevention, comprehensively focuses on health and perceives the patient holistically. It takes into account lifestyle, diet, physical activity, and ways to relax. It emphasizes efficient self-healing of the body and strives to achieve balance and better well-being.

2. Definitions of Integrative Medicine

Integrative medicine, or integrated medicine (Rees and Weil, 2001), combines alternative medicine therapies with conventional medicine therapies (Merriam-Webster, n.d.). The American Board of Integrative Medicine® (ABOIM) and The Consortium of Academic Health Centers for Integrative Medicine define integrative medicine as a medical practice that focuses on the whole person by paying attention to the relationship between the doctor and the patient. It is supported by evidence. The goal of this model of medicine, using all appropriate therapeutic approaches, is for medical professionals to achieve optimal health and treatment (American Board of Physician Specialties, n.d.). Rakel and Weil (2007) and Andrew Weil Center for Integrative Medicine in Arizona treat integrative medicine as healing-oriented medicine, taking account of the whole person (body, mind, and spirit), including all aspects of lifestyle. It uses both conventional and alternative approaches when emphasizing the essence of the therapeutic relationship between the physician and the patient and relying on the evidence (Andrew Weil Center for Integrative Medicine, n.d.). Integrative medicine is based on several essential elements (Pérez-Alvarado, 2018):

- patient-centered care,
- empathy in building a clinical relationship or therapeutic partnership,
- taking control by the patient over his health decisions,
- a transdisciplinary approach that increases the chances of achieving information synergy,
- healthcare continuity concept.

3. Patient's Treatment Model - How Is it, and How Should it Be?

An effective treatment model should be based on person-centered care, which means treating patients as equal partners in the healing process. In addition, it should be a multidisciplinary approach that recognizes a person's needs in the context of more than one specialist to support their treatment process. Such a personalized and coordinated model recognizes people's ability and potential to manage and improve their health, rather than simply seeing them as victims of disease or passive recipients of care (Coulter and Oldham, 2016).

The patient's treatment model should focus on holistically curing the patient in the context of various dimensions, physical (based on conventional medicine), psychological (taking into account the assumptions of traditional medicine), and spiritual (using quality-of-life programs) (Martins, 2020; Rees and Weil, 2001). According to The Bravewell Collaborative, integrative medicine puts the patient at the center of care and addresses the physical, emotional, mental, social, spiritual, and environmental spheres. Such a treatment model allows meeting the patient's immediate needs and the effects of long-term and complex interactions between biological, behavioral, psychosocial, and environmental factors (The Bravewell Collaborative, n.d.).

Figure 1 presents an integrative health model based on eight aspects, treating human health holistically. The health of every human being depends not only on physicality but also on the mental and spiritual spheres. The patient's well-being and the support system at every stage of treatment are essential. Skillful stress management in the context of recovery is also crucial.

Integrative medicine focuses on health and healing, not disease and healing. It also covers lifestyle factors such as diet, exercise, sleep quality, and the nature of human relationships (Ullah and Humaira, 2019). That way, integrative medicine is a model based on greater attention and a broader approach to treatment based not only on the Western biomedical model but also on other cultures. This model is based on a patient-doctor partnership to heal mind, body, and spirit simultaneously. The integrative care model combines conventional Western medicine with alternative or complementary treatments such as herbal medicine, acupuncture, massage, biofeedback, yoga, stress reduction techniques, all to heal the whole person (Grant, 2014).

Figure 1. *The Integrative Model of Health*

Source: *Caring Ambassadors Program, n.d.*

As a less medico-centric approach compared to other treatment models, integrative health care is better suited to the principles of chronic disease management, like rare diseases. This customer-centric approach provides accessible, holistic, evidence-based, personalized, and coordinated care emphasizing prevention, health promotion, healing, and well-being (Leach *et al.*, 2019).

4. Integrative Model in Rare Disease Management – A Case Study

The chronic nature of the disease and progressive complex and often genetic health problems are hallmarks of most rare diseases. They lead to the social exclusion of the patient and his relatives; therefore, they particularly require specialists in many fields. Due to the small number of sick people, not more than one person per 2,000 inhabitants (Regulation ..., 2000), these diseases constitute the least medically cared. Only 5% of them - and it is estimated that there are at least 6,000 in the world types of rare diseases - can be treated as far as the underlying cause. The remaining patients are doomed to symptomatic and often intuitive help.

The last decade has brought new research, solutions, and hope for patients and their families. Nevertheless, knowledge about rare diseases is punctual, insufficient, and the scale and quality of support vary between countries. Patients in Poland complain about the lack of coordination and cooperation between specialists in the field of conventional treatment (Libura *et al.*, 2016). Most often, they look for unconventional solutions on their own. They are based on the experiences of other patients whom they reach thanks to social media. Patients and their caregivers associate within informal groups, ultimately non-governmental patient organizations, which creates further opportunities for multidirectional development in the area of a given disease entity (Władysiuk *et al.*, 2020; 2021). In the context of rare diseases, such a situation clearly outlines the need to consider a partnership model of communication in the doctor-patient-family relationship. In this model, the parties

involved act as partners - experts who work together to optimize treatment and support processes (Jarosz, Kawczyńska-Butrym, and Włoszczak-Szubzda, 2012).

The experience of the countries involved in activities for rare diseases shows that the treatment option is an unquestionable catalyst for the action and cooperation of all stakeholders related to the disease. An example is the ultra-rare childhood dementia (CLN2), for which the first orphan drug treatment was registered in 2017 (European Medicines Agency, 2017). The therapy is part of the developed disease management strategy (Williams *et al.*, 2017). It affects all management areas listed therein: quality of life, medical management, family support, and end-of-life care.

The strategy makes it possible to implement an integrative model of rare disease management and emphasizes the need for cooperation of many specialists in many areas of the patient's and his family's life, which are shadowed by the disease. It is consistent with the model proposed for chronic disease, grading the levels of care from home, through outpatient, to hospital highly specialized, with an emphasis on not overusing the latter to maintain the comfort of the patient and his relatives as long as possible (National Framework ..., 2020). An integrated approach to care is beneficial to the patient and his family in both causal and symptomatic treatment settings. It creates an opportunity to improve the quality of life of people burdened with the disease. In the case of the implemented causal treatment, it is possible to increase essential therapy effectiveness.

In rare diseases, the effectiveness of helping the patient has a broad impact. It translates into the quality of life of the patient's relatives, who are forced to "get sick" with him. Most sick are children (Kole *et al.*, 2021) who require permanent care from third parties. Caregivers are physically and mentally burdened, and they too are excluded from social life. The third group that needs support is the healthy siblings of a sick child (Dinleyici *et al.*, 2019). Therefore, when discussing implementing an integrated model of rare disease management, one should consider integration "inside," i.e., a holistic view of the patient, and integration "outside," i.e., a holistic view of the patient's family. The excellent condition of all parties gives only the synergy effect.

5. Health Care Systems in the World - Main Challenges

The task of health care systems is to maintain or improve the population's health by preventing, diagnosing, and treating diseases, injuries, physical and mental disabilities. A properly functioning health system is based on a stable financing mechanism, trained and adequately paid personnel, access to reliable information, and health services. Access to healthcare is a fundamental human right, and its lack can result in a lower quality of life, a shorter life expectancy. Countries with efficient and effective health systems generally have better health outcomes (World Population Review, 2021).

According to WHO (World Health Organization), the most pressing global challenges to health systems in the world are (Caruso, 2020; Wood, 2020):

- climate crisis in the context of the health and life of the inhabitants of our planet;
- providing health to societies in times of conflicts and pandemic;
- fairer healthcare - also available to a greater extent for patients with rare diseases;
- increasing access to drugs - creating a system of incentives for scientists and the pharmaceutical industry to search for new therapeutic solutions for currently incurable diseases, sporadic and ultra-rare diseases;
- preventing the spread of infectious diseases;
- better preparation for possible future epidemics;
- promoting a healthy, balanced diet;
- striving for sustainable health and social care systems, taking into account orphan diseases according to SDGs (The Sustainable ..., 2019);
- increasing the safety of adolescents in the context of promoting positive mental health among them by preventing drug use, alcohol abuse, and self-harm;
- increasing public confidence by disseminating reliable information in the media and creating community programs to prevent the spread of diseases;
- judicious use of modern technologies and innovations for the detection and treatment of various diseases taking into account the so far unmet needs in the field of rare diseases;
- prevention of antibiotic resistance by increasing funds for research into new antibiotics;
- ensuring cleanliness and sterility of medical entities by providing essential water and sanitary services.

The consequences of climate change have a direct impact on human health and the sustainability of health systems. Unexpected events and extreme weather trends such as higher temperatures and rising sea levels increase the number of diseases and deaths, disrupt healthcare, and generate higher costs. Therefore, hospitals and doctors need to adapt health services to climate change. Deploying solutions will require stakeholders from different domains to develop strategies, share best practices, and learn from medical professionals (Salas, 2020).

Preparing for pandemics, which are rare events, is extremely difficult due to many factors. Centers implementing the treatment of chronic diseases, including rare diseases, faced a formidable challenge to ensure the continuity of therapy while maintaining the safety of patients and staff. Responsibility for protection during a pandemic is fragmented, and many of the most vulnerable countries have severely limited capacity to manage and mitigate pandemic risk. However, by intervening quickly in this area, the flow of viruses can be significantly mitigated. There are ethical and global health requirements to detect and respond to pandemic threats -

particularly in countries with low preparedness and a high risk of spreading. Probabilistic modeling to quantify the potential risk is of particular importance (Madhav *et al.*, 2018).

Another challenge for health systems is the availability of clean water in medical facilities. Water is crucial to ensuring high-quality healthcare because, without proper sanitation, including toilets and waste disposal, diseases can spread within a healthcare facility. Water allows patients to stay hydrated, wash, and reduce the risk of infection. The chance of getting sick is significant in the absence of soap and water. A significant problem is the inadequate management of infectious and hazardous waste in healthcare facilities. In summary, there is a need to ensure a sufficient amount of safe water to provide health services to healthcare providers worldwide, as the situation is worrying (World Health Organization..., 2019). Modern health systems should be sustainable and based on three key attributes:

- affordability- both for patients and their families and healthcare providers;
- acceptability - for patients and medical professionals;
- adaptive abilities - it is about the adaptive response of the health care system to new diseases, aging societies, technical and technological innovations in the field of public health.

The effect of the sustainable development of health systems has to be in three dimensions: first, a healthy population, second, excellent care for effective, safe, timely, patient-centered, fair, and efficient care, and third, fairness, meaning on the one hand, treatment without discrimination and differences for all individuals and families regardless of age and social group affiliation, and on the other hand fairness to health professionals, institutions, and enterprises supporting and providing medical care (Fineberg, 2012). More transparency is required in setting prices for drugs, which are often disproportionately expensive related to costs incurred for their production (Roediger, 2019). This point is critical in the case of orphan drugs. The problem of very high prices of treatments used in rare diseases effectively inhibits their spread and increases inequalities in health between countries.

In summary, a sustainable health care system should normalize and balance the health needs of society as well the economic and financial possibilities of the state. It should also involve the public and non-state actors and build on innovation and progress. Citizens' health security can be guaranteed if a balance is achieved between all the elements necessary for this system - recipients, participants, and the environment (Michaluk-Mazurek, 2019).

6. Conclusions

Integrative medicine is an innovative approach to the treatment process, combining conventional medicine with alternative medicine with scientifically proven effectiveness as part of therapy. As part of alternative medicine, it is mainly about

traditional Chinese medicine methods, such as herbal medicine, acupuncture, acupressure, Chinese health gymnastics, cupping, and massage. However, this approach results from the need for an individualized, holistic approach to the patient, using all possible therapeutic techniques to improve his well-being.

Integrative medicine is the future and, at the same time, a challenge for health care systems globally, as modern conventional medicine struggles with the lack of effective treatment methods in chronic diseases and cancer. Often, the treatment focuses mainly on the bodily basis, and due to the lack of time and possibilities, the issue of patients' quality of life during treatment becomes secondary. However, it is essential in chronic diseases that affect the patient's life and his family.

Modern medicine in the form in which it is currently practiced should focus on improving communication between all participants of the treatment process and shaping good doctor-patient relations. In rare diseases, the model of patient relations was developed somewhat naturally - patients provide the medical community with valuable knowledge. In addition, they have exceptional experience in dealing with the disease.

It seems that the future for health care systems in the world could be a combination of traditional and complementary medicine therapeutic methods and their gradual incorporation into primary health care. Planning and policy-making should involve both conventional and alternative medicine practitioners. The role of specialists in both fields of medicine would be crucial in establishing interdisciplinary cooperation and providing education to other stakeholders in the healthcare system. To integrate conventional and alternative medicine services, they would need to be adapted to the culture of the community.

The future of global health care systems also means meeting global challenges in the context of sustainable development and social responsibility of healthcare entities. Integrative medicine fits perfectly with these assumptions and should be an indispensable part of a modern, innovative health system for all countries.

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