QUALITY OF LIFE, SUSTAINABLE FUTURE AND MEDICAL EDUCATION

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SUMMARY

Substantial social and environmental changes in a global world as well as a new paradigm of medicine emphasizing high technology and evidence based approach bring to the current medicine many paradoxes. Undoubtedly, new era creates many positive opportunities and challenges for medical professionals. On the other side, traditional concept of medicine as basically humanistic "helping profession" is rather threatened. In this context, there is a need for a re-defining of medical curricula and to offer to the medical students the concepts and ideas which reflect a current development. Traditional public health terms such as "Primary Prevention", "Health Promotion", "Health Protection", "Health Determinants" should be re-defined and the new ones such as "Quality of Life" and "Sustainable Future" must be introduced as an integral part of medical education. The relevant concepts are discussed in the context of specific situation of the health care transformation in Central and Eastern European Countries.

Key words: sustainable development, primary prevention, health protection, health promotion, monitoring of health state, quality of life, health related quality of life.

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INTRODUCTION

During the past few decades the "classic academic" medicine has changed from a traditional "Hippocratic-oath" based profession, which had for ages combined arts, communication, and science into a sophisticated hi-tech market-orientated and rather impersonal business. The role of physicians and medical nurses is being changed, too. Many medical professionals have lost their profound humanistic and "compassion" ideals and approaches. They think about patients as health care consumers or clients and call themselves health care providers. They are settled in the market orientated health care sector (1, 2). Physicians experience a significant limitation of a professional and personal autonomy due to the increasing external control and regulation from the side of health care purchasers, health managers, policy makers as well as mass-media. It can lead to the weakening of their traditionally altruistic identity and finally – to the strengthening of their orientation to their own personal interests (3). There are some potential risks connected with this development which could damage medicine as a whole. On the other side, there are some new trends in the health care and medicine, which lay stress upon patients/clients needs satisfaction as the basic goal of medicine. In this context concepts like "Patient Satisfaction", "Quality of Life" are very actual. Ultimate mission of medicine is to contribute to the improvement of people's global quality of life not only to keep them alive (4–10).

It seems that in a certain sense, current medical practice is being influenced by the beliefs, opinions and requirements, which are controversial *per se*.

To cope with these trends and substantial changes, searching for a "new paradigm" of the health care is now universal and is more or less dissatisfying. Access, equality and quality of health care are mentioned in most scenarios. However, the meaning of these categories differs substantially according to the economic, social and political development in the different areas. Cost containment as the fourth important and sometimes dominating feature is mentioned and stressed mostly by economists, politicians and by health managers, too. Human approach, patients and medical professional's autonomy should be added. They are key components of the patient-orientated model.

All the above mentioned characteristics are necessary for definition of the newly developing health care and for better understanding of the profound and complicated changes in this very important and sensitive area (11). All Central and Eastern European Countries (CEEC) still suffering from social and economic transition period turmoil are limited in their "health care transformation" efforts by these ethical, scientific and economic factors (12, 13, 14).

The most developed countries suffering from overgrowth, over-aging and over-consumption must solve the different but not as well simple problems trying to improve the potential health of their aging and zero-growth populations. There is no doubt that there was and there is still variety of reasons why centralised health care system in the Central and Eastern Europe Countries (CEEC) had to be substantially changed. The implementation of free market economy principles in CEEC provoked dramatic and abrupt changes in financing, organisation and structure of these neglected and "non-productive" sectors (15, 16).

Access to the socialised health care facilities had been open to all citizens free of any charges. The quality and equity of health care for all were legally guaranteed. In spite of these declared achievements of our previous health care we were facing the declining health status of our population during the 80ties and

at the beginning of 90ties. The declining quality of health was linked to the unhealthy life-style and many pronounced environmental risks (13, 17). The Czech health care system represents now a pluralistic health care system, which suffers from a lack of cost-containment mechanism, lack of legislative and adequate economic tools. In this context another serious problem is caused by very limited and un-codified multi-resource financing.

Most Czech medical professionals were and many of them still are more or less dissatisfied. They criticised the pronounced differences between the low income level in public health hospital sector, health-social institutions an the average income of qualified specialists in other sectors of private or semi-private Czech economy at the beginning of transition period of our health care system. They complained about unequal and badly defined conditions for privatisation of health facilities. They protested against high interests on loans they had to take to be able to buy the health facilities where they had worked for decades. Most of these policlinics and other health care facilities had been originally state-owned or in some cases owned by municipalities. The high cost of new medical technology, rising demands of the patients boosted by the media promoted myths about achievements of a "New Brave Medicine" cause many dilemmas.

What should or could be sacrificed in CEEC? Shall we support preventive medicine at the expense of patients who suffer from serious or chronic diseases? How can be balanced the need for preventive and curative care? How to adopt pressures for new technologies versus allocating resources to primary care? How can we cope with the demands of our patients and their relatives for the high-tech "western medicine model"? This patient orientation is of course strongly supported by medical equipment producing firms and pharmaceutical companies. And finally, how to ensure effective patient participation on health services provided? Should we implement the triage principle respecting our limited resources? Will the principle called "greatest good for the greatest number" prevail even in the European countries? How can the health care in CEEC be transformed while respecting universal scarcity and lack of resources? Demands and expectations are high and resources are limited.

How can the CEEC avoid just copying the health system development in the highly industrialised countries? We must avoid copying mistakes made by the industrialised countries. It is potentially effective approach how to overcome pitfalls of the transition period (18).

QUALITY OF LIFE

The term Quality of Life (QoL) was firstly used in 60' by the American President Johnson who declared improvement of quality of life of Americans as a goal of his domestic policy. The concept of general QoL has a long history in social sciences growing out of social indicators research. The general concept of QoL is very broad and is composed of both objective and subjective well-being (19). At present, the term has a different meanings depending on the context in which it is used. For example, in health promotion and disease prevention is often used as a synonym for health status.

In psychological sciences, Quality of Life is being defined as a subjective correlate of health, manifested by the general life satisfaction and well-being, by the predominance of the feelings of positive emotions, relative absence of negative emotions and subjective feelings of a good health (20, 21). Psychological well-being is determined by the life goals and their fulfilment. According to Kasser, fulfilment of "all" individual's goals will not necessarily enhance a persons happiness. Only so called "intrinsic" goals are effective in this sense. Of the most importance are close personal relationships and community feeling and participation. Materialistic ("extrinsic") goals such money, attractiveness and fame are not likely to increase people's happiness (22).

In a sociological concepts, QoL is understood as product of interrelations of social, health, economic and environmental conditions influencing a human development. Sociologists try to identify empirically the most important predictors and their interrelations of human development for specific population groups. They use such various concepts like social inequalities, social comparison (for example) to explain complexity of social, economic and psychological determinants of people's life and well-being.

In medicine and health care the term "health related quality of life" is being increasingly used for evaluation of the medical outcomes. In general, the assessment of "health related quality of life" is a comprehensive way how to get information on burden of disease and effectiveness of treatment, research programmes or health promotion programmes. Due to this relatively new concept and its implementation in medical clinical decision making, physicians can assess alternative treatment procedures not only from clinical point of view, but also from the perspective of patient's everyday life. It means that, benefits and utility of specific treatment are defined in terms of patient's everyday life and are evaluated by the specific methods (standardised questionnaires). Usually, health related QoL assessment involves patient's functioning in several important life domains: Physical functioning is assessed predominantly by the limitation in mobility for health reasons and presence of fatigue, pain and physical discomfort. Social functioning is measured by a limitation of performing his/her social role (in a family, in a work, in a school, in a community…) as well as by the network of social relationships. Psychological sensations such as tension and feelings of anxiety, fear hopelessness and helplessness are being also included. There are also included subjective perception of global health and satisfaction with health.

All these domains can be interpreted and measured by identification of the proportion of time (on average) which individual spent in an optimal functioning over a given time interval.

The World Health Organization has developed a quality of life instrument (WHOQoL), which is based on the multidimensional concept of QoL. It captures many subjective aspects of quality of life and it was constructed to cover six different domains, which seem to be cross-culturally important (23). This instrument is in the process of international validation by the WHOQoL group (24).

Compendium of QoL instruments containing large scale of questionnaires dealing with QoL assessment on the general level as well as with disease specific QoL assessment (psychiatric disorders, dementia, cancer, respiratory diseases, hospice and palliative care, skin diseases…) is now available (25).

The concept QoL has a strong consequences for a public policy. QoL assessment enables evaluation of impact of all changes in social, political and biological environment (regardless their causes) on the everyday people's life and their health. Through QoL measurement government can get information about effectiveness

of its social-economic policy. In the current WHO documents there is a strong accent on the complexity of factors influencing human health and quality of life. *"Environmental Health comprises those aspects of human health, including quality of life, that are determined by chemical, physical, biological, social and psychosocial factors in the environment "* (26). It is well-known, that impact of environmental changes on QoL is not equal for all. There are various groups of people being at risk not to be able to cope with a new situation. For this reason, not only entire population but defined population groups (e.g. men, women, singles, one-parent families, people living in some specific area or region, ethnic minorities, patients suffering from chronic disease… *et cetera*) are being considered as the target groups for monitoring of impact of changes. Different indicators of mortality, morbidity as well as subjective well-being are set up. Sociological indicators such as level of incomes, quality of housing, accessibility of health services, community involvement, neighbourhood relationships *et cetera* are also taken into account. This approach could improve significantly a real political, economical and health care decision making processes through creation "healthy" public policy.

All aspects of QoL can be highlighted on life style conflicts examples, health risk of more sensitive compartments of population (children and seniors) and on using examples such as HIV infection and cancer patients. A complexity of the QoL concept can be demonstrated on how different types of instruments (most frequently Health Assessment Questionnaire which has been in use over 10 years and in over 100 studies) or study design may influence the resulting picture of health status. Moreover instruments developed for discriminative or prognostic purpose may not necessarily be useful for evaluation and vice versa.

Care must be taken interpreting QoL data when they comes from a socio-demographically diverse conditions. Interpretations relevant for any specific population may not be appropriate for use in other parts of the world as related concepts of health itself vary across cultures. Health related QoL data may assist in health care planning by providing information that identifies population groups at particular risk to health, so that primary prevention can be rational, intervention specific problem orientated, and cost effective. Descriptions and predictions based on data describing QoL may be of interest addressing key issues of human rights such as equity in health and access to health care.

PRIMARY PREVENTION

Indispensable part of education of health professionals in the spirit of sustainable survival or in a more euphemistic form – sustainable development philosophy is our stress on prevention principle and especially on the primary prevention. Although this effort seems to be "never ending story", the goal of the primary prevention is to minimise the causes of diseases, reduce their incidence, and thus improve life expectancy and the quality of life. The primary prevention is put into practice by the political, economic and legislative tools, and also by the positive attitude of the population members to one's own health.

The components of primary prevention are the protection and promotion of health. Health protection should serve as an instrument eliminating unacceptable health risks coming from any kind of human activity. The spending of the government and private sector on health protection amount in our country to some tens of billions of crowns annually. This fact deserves no admiration, applause or disgrace, it is just a pure necessity. But for it, the present industrial community would collapse due to incompatibility of living conditions with human existence (27). Global urbanization and related impacts on human health (28), hazardous waste management (29) *et cetera* may serve as other examples.

Most of the primary preventive measures are included in the legislation of the country, and in an optimal case it is supported by flourishing economy, culture of living and morals. The task of the present day society in our country is not to establish the yet existing primary prevention system but to monitor its components, such as trends in health condition, health impact detected in occupational and environmental settings, nutrition, life style, and behaviour of the population including bad habits; further priority is the application of scientific knowledge, international agreements, etc. into the every day practice. Parts of the primary prevention are the protection and promotion of health.

HEALTH PROTECTION

It is a complex of legislative, scientific, control, and technological and educational activities. The goal is to guarantee no human activity would give rise to an inadmissible health risk. The health protection covers all strata of the community.

It is based on fixed limits or regulations for the occupational and general environment, occupational safety, transport, safe drinking water, foods, etc. The limits are assessed by investigations about their impact on human health, and are codified by legal acts following consent of the interested corporate departments, according to the significance and reliability of the limits as such. Some of the latter are derived from foreign legal standards or international recommendations (WHO, ILO, EU, IPCS). The limits of harmful factors do not necessarily mean the complete removal of health risks, but rather their reduction to a level, which under the given conditions, is considered admissible/acceptable.

The surveillance of health rules and hygienic limits observation is done by the producers for internal use, as safety measures or by the governmental control institutions. Generally, the factory inspection is the better the larger is the industrial plant or agricultural enterprise. Small plants and workshops usually lack the qualified or skilled inspection teams (30).

The government inspection in public health sector is in our country still carried out by the Hygienic Service recently transformed into a network of Regional Hygienic Stations and Health Institutes and Veterinary Service. Other inspection units are charged with health safety controls, mostly in foodstuff industry.

Health protection evokes a special political and ethical tension in our society. People want to be protected and they insist on their rights usually uncompromisingly but tend to prefer be paid for risk to be safely protected against it (30).

HEALTH PROMOTION

Consists of education, organisation, economy and some more forms of health-orientated policy. Health promotion is an up-to-

-date modern activity in the society, based on behavioural causes of health disorders and diseases as the result of behavioural changes, different ways of living or changed man/environment relationship. A critical component of health promotion is health education. The goal of the latter is to provide the public enough up-to-date, rational and adequate amounts of information and advice how to prevent diseases, improve knowledge, stimulate the motivation, influence the general attitude and induce active interest in improving one's own health. As generally accepted, we can positively influence and reduce over one half of diseases by changing our life style and behaviour. The positive effects include healthy nutrition, considerable cut-down of smoking, more physical activity, avoiding risks of accidents and infections, reducing alcohol and other drugs consumption and prevention of long-time stress consequences.

Whereas health protection takes into account in the lesser extent activities of an individual (i.e. health is protected legally, by technology or surveillance) health promotion counts on voluntary active cooperation of individuals, groups, unions or enterprises, and of course, on the government involvement. The funding is voluntary, partly sponsored by the government or individual donors. Health promotion is indispensable for public health improvement, prolonged life expectancy and especially for better health related quality of life.

But for this the treatment costs would be rising faster than the available financial sources. Ideally speaking, health promotion is a task for all sectors of the society. The National Center for Health Promotion charged with these activities in the Czech Republic was closed down in 1995, and the running projects passed to the National Institute of Public Health. Among the institutions controlling and executing health promotion now ranks in our country the National Institute of Public Health, the previous regional and district Hygienic Stations, recently transformed into a network of Regional Institutes of Health, some non-governmental organisations, Ministry of Health, and schools – particularly the faculties of medicine.

MONITORING OF IMPORTANT DISEASES AND HEALTH DETERMINANTS

The rational health policy and purposeful funding of public health strictly requires reliable information on disease incidence trends, prevalence of regional differences or specific local features by districts or regions. On the ground of an objective knowledge of occupational diseases incidence the government, insurance companies or supervising health authorities, employers and last but not least trade unions should tune up their activities. According to actual state of infections incidence and immunity rate, vaccination programs are regulated, use of antibiotics controlled as well as intensity of preventive and suppressive measures in food industry, etc.

The up to now employed notifications of important diseases, e.g. malignant tumours, tuberculosis, venereal diseases, monitoring of some health indicators like immunity status, or selected health determinants (smoking status, nutrition habits) were threatened with failure. Funding of these public health interests stagnated and programs such as the serological surveys, previous Hygienic Services of Czechoslovakia were famous for, were resumed only recently. The result of it is calling for more funds to cope with the new problems. With view of the above facts we consider imperative to produce a thorough analysis of monitoring of some selected diseases and their determinants, and allow for these activities supporting primary prevention to get financially boosted.

PRIMARY HEALTH CARE

Primary health care is essential health care made accessible at a cost the country can afford implementing methods that are practical, scientifically sound and socially acceptable. Primary health care is the central function of a country's health system stretching from periphery to the centre and represent an integral part of the social and economic development of a country. Primary prevention partially overlaps with primary health care involving measures taken to prevent the onset of illness, condition or injury. It covers all efforts aiming to reduce the incidence, severity and consequences of future, potential illness and injury. A more recent concept which constitutes indispensable part of today's Health for all policy mentions health promotion as well. It represents the process of enabling individuals and communities to increase control over determinants of health fostering life style and other social, economic and environmental factors conductive to health in a broad sense.

The values and the goals of newly shaped medicine present the key problem.

One of the important aspects of primary prevention hand in hand with health promotion activities, is the perception of individuals or population groups as to what degree their needs are being fulfilled and that they are not being denied opportunities to achieve adequate and acceptable quality of life.

Having in mind issues of environmental deterioration still in progress in a global scale we are trying to educate our students of medicine at the 1st Faculty of Medicine, Charles University in Prague (established in 1348) in a spirit of sustainability of life. We offer the subject Ecology of Man included into the time frame of the 3rd year of their curriculum (31) and health related environmental and sustainability issues are intensively treated within subject Hygiene and Epidemiology in the 5th year of study. Problems of quality of life are of course presented to our students within subject Social Medicine and Public Health during the 4th year of their study. On trying to attract attention of our students to sustainability issues we need to respect as well present state of art in medicine as branch of science and situation in health services network in which the students will spend their professional life. Another important aspect tightly related to sustainability is prevention in all of its present forms and last but not least the understanding of basic principles of the quality of life concept. The paper is an attempt to describe all the three important aspects tightly connected with education of our students in a sustainable future spirit.

Before the conclusion, it is to point out that we have to rediscover and implement such traditional values as quality of life, co-operation, solidarity, altruism, human dignity, humility, and respect for all life on the Earth, as well as for the inanimate part of Nature. These are not "new" values or the inventions of some "social engineers". They are the central parts of the common

heritage of humankind, expressed in traditional values, which can be found in the fundamentals of the present civilisations and also in many different cultures.

CONCLUSION

Steadily deteriorating environment with its subsequent impact on ecosystems in general and quality of human lives in particular is a very complicated process which in respect of human medicine calls for profound improvement and changes in the primary prevention health systems. The complexity of known and just emerging problems needs an internationally based system research approach backed by responsible policy of regional, continental and global political institutions and open, fresh minds with fantasy, courage and responsibility.

Having in mind those global issues of sustainability we are trying to educate our students of medicine at the Charles University of Prague in compliance with very famous slogan: "Think globally, act locally."

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