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Editorial

A New Start for Medical Use of Electromagnetic Fields

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Editorial

It is interesting to know that the human population has reached from one billion to today's level (approximately 7.6 billion) in only last two centuries. Since the vital point should be not the huge numbers but the quality of lifespan, the success of humanity will come from both healthy socio-economic status and physico-mental wellness. Similarly, WHO (World Health Organization) defines the health as the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Since the prevention and the treatment of the diseases is the first case for the medical point of view, to find out the possible reasons is crucial. According to global health risks [1], high blood pressure, tobacco use, high blood glucose, physical inactivity and overweight and obesity (13%, 9%, 6%, 6% and 5%, respectively) lead to the mortality in the world in 2004, in addition to the increase in the risk of chronic disease such as heart disease, diabets and cancers. And recently, world health statistics [2] indicated the reason for 70% of overall 56 million deaths as noncommunicable disease i.e. cardiovascular disease, cancer, chronic respiratory disease and diabets (45%, 22%, 10% and 4% of those diseases, respectively) in 2015.

On the basis of disease treament, global pharmaceutical production report [3] showed that 10 among 188 countries including France, Germany, Japan, UK and US, had sophisticated industry with significant research including 10 headquarter companies, 16 countries including Australia, Canada, China, India and Russia had innovative capability, 13 countries including Brazil, Egypt, Indonesia, Norway and Turkey had industries with both active ingredients and finished products between 1985 and 1999. In addition to the total value of global pharmaceutical production was over US $320 billion corresponding 1.12% GDP (gross domestic product) in 1999, the amount of sales medicines was overall US $111.3 billion in the top 10 therapeutic classes including anti-ulcers, cholestrol reducers, antidepressants, anti-inflammatory drugs, antihypertensive drugs, antipsychotics, oral antidiabetics, angiotension-converting enzyme inhibitors, antibiotics, systematic antihistamines in 2001 [3]. Moreover, it is remarkable that those medicines also contain therapeutic classes for mental health underlying the fact that the cure of the diseases not only resulting in death but also affecting the life standards adversely is crucially needed. In addition to all those pharmaceutical industries around the world, the total pharmaceutical and health expeditures as percentange of GDP in 2006 became approximately 1.5% and 10%, respectively for all countries [4]. For example, China as a lower-middle-income country with over 1.3 billion population spent US $144.8 billion (4.67% of its GDP) on health and medicines accounted approximately half of its total health expenditures in 2006 [4]. In contrast, Norway as a high-income country with US $72215 GDP per capita in 2005 spent only 0.7% of its GDP on medicines accounting 9% of its total health expenditures compared to an OECD country with 1.5% and 17%, respectively[4].

To see the effectiveness of this industrial economy, the distribution of income plus human lifetime in the world is also important. When all countries were grouped in accordance with income in 2004, it was found that high-, middle- and low-income countries represented 15%, 47% and 37% of the world population, respectively with similar mortality distribution and also contraversy young population [3]. While high-income countries had 977 million population with US $31253 GNI (gross national income per capita) and approximately 80 years of life expactancy (LE), low- and middle-income countries in the regions of Americas and Europa (including Russia and Turkic Republics) had approximately US $8500 GNI and 70 years LE, in the Western Pacific Region (including China) US $5760 GNI and approximately 70 years LE, in the Eastern Mediterranean and South-East Asia (including India) approximately US $2300-3750 GNI and over 60 years LE, in the African Region approximately US $1800 GNI and 50 years LE [3]. Furthermore, the global risks for burden of disease as underweight, unsafe sex, unsafe water together with sanitation and hygiene obtained from low-income countries, especially in the regions of South-East Asia and sub-Saharan Africa [1] indicates the variation in priorities for a healthier life among different regions of the world.

To balance the living conditions for a healthy life, global perspective is necessary. It is obvious that new solutions are needed. For instance, the medical use of electromagnetic fields can

be considered as a new area. Although first attempts came in the beginning of the 20th century, especially with Rife's frequencies, they were claimed as unsubstantiated or condemned [5]. However, recent studies in this field, especially for the treatment of cancer have appeared for several years and begun to give important results [5-7]. Compared to pharmaceutical and surgical areas, it has many advantages such as few if any side effects, low cost, ready and easy for use (especially for the local use), indefinite shelf life, etc. For the medical point of view, new areas are important for the sustainable development. Therefore, this area seems to take attention for the coming years.

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