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CHANGES IN REHABILITATION FRAMEWORK

It's a great honor to be awarded the Sydney Licht Lectureship Award. I feel even more responsible when I think of our seniors' contributions to this discipline, who were previously awarded worldwide. Also I would like to thank to my professors who did their best to improve my skills and allow me to reach this position, and to my parents whom I feel their support even if they are not with me anymore, and of course I would like to thank to my lovely daughter, Selin, representing my future.

Why PMR discipline?

To be honest, it wasn't what I thought when I was graduated from Medical School. However, the socialization in health program in Turkey was proceeding while I was working as a general practitioner between 1982 to 1984. At that time, I was responsible for organizing the Mother and Child Health - Family Planning services in health clinics of Sakarya, in where all primary care was given. The works we've done in Sakarya made me face the fact that the number of cross-cousin marriages and disabled children was really high. After that, I worked as the coordinator of Ankara in a common project of UNICEF and Ministry of Health of Turkey, named "No Children Left Unvaccinated". I am especially proud of taking part in that project which enabled Polio to be eradicated from Turkey. All the things I've come through reinforced me to study on the importance of functionality and managing preventable disabilities. I realized the increasing importance of this discipline when I was on my specialization training between 1985-1989 and now I'm here.

According to written history, physical therapy methods such as exercise and massage have been used in the management of many disorders and taught to medical students since Aesculapius (Asclepius). However, before the 2nd World War, physicians using physical modalities, thermal waters, some exercise types and dietary modifications were considered as cheaters. As time passed by, orthopedic surgeons realized that new approaches were needed in the management of conditions such as arthritis, paralysis, fractures and dislocation which result in disabilities. The first orthopedic gymnasium was founded in 1897 and the "Mediomechanics Department" was established in Massachusetts General Hospital, in 1904 (Figure 1).



Figure 1. 'Mediomechanics Department' was established in Massachusetts General Hospital in 1904.

became Professor Emeritus (1). The term "Physical Therapist" was first used in this book and physiotherapists were defined as "Non Physician Health-Care Providers". The formal physical management training was started in 1918 in Mayo Clinic. Dr. John Stanley Coulter (1926) and Dr. Frank Krusen (1936) were pioneers of physical medicine and rehabilitation training in west countries, in the aim of coping with musculoskeletal and neurological problems.

The terms Physiatry and Physiatrist are derived from Latin words "Physicos" (Physical) and "Ietra" (Art of Healing). The term "Physiatry" was coined by Dr. Frank H. Krusen (Figure 2) in 1938. The term was accepted by the American Medical Association in 1946. (Physical Medicine and Rehabilitation (PM&R), or Physiatry, is a branch of medicine which aims to enhance and restore functional ability and quality of life to those with physical impairments or disabilities (2).

Progress on Physical Medicine and Rehabilitation Speciality in USA

The first professor of physical training in University of Pennsylvania was Prof. Tait McKenzie (R. Tait McKenzie, physician, physical therapist, physical educator, and sculptor) served the University of Pennsylvania as its first Professor of Physical Education, 1904-1929. Wishing to be relieved of the administrative work required of his position, McKenzie took a year's leave of absence in 1929-1930 and in 1931 was appointed J. William White, Research Professor of Physical Education. His new post permitted him to focus his efforts almost exclusively on his sculpture. In 1937, he



Figure 2. Dr. Frank H. Krusen

American Board of Physical Medicine and Rehabilitation was established by Dr. Krusen and his colleagues in February 1947. Just after that, a committee created in 1950 brought this subject internationally, and the International Federation of Physical Medicine and Rehabilitation (IFPMR) was established.

On May 10, 1950, the Royal Society of Medicine (London) held a meeting chaired by Dr. P. Bauwens - Chairman of the Committee for International Relations of the British Association of Physical Medicine - with the attendance of Dr. Frank Krusen (USA), Dr. Sven Clemmenson (Denmark) and Drs. Hugh Burt and Will Fegner from Great Britain. An Interim Committee was formed as follows (3):

Dr. Frank Krusen (USA)	President
Dr. Philippe Bauwens (GB)	Hon. Secretary
Dr. Hugh Burt (GB)	Hon. Treasurer
Dr. Sven Clemmenson (Denmark)	Member at Large
Dr. Will Fegner (GB)	Member at Large

Meanwhile, another group of Psychiatrists established the International Rehabilitation Medicine Association (IRMA) in the leadership of Dr. Sydney Licht (1968). In the following years,

international associations came together. After many meeting and congress, IRMA and IFPMR has merged under the name of ISPRM in 2001 and held the 1st ISPRM Congress in Amsterdam.

The developments of PM&R in Europe

By the establish of the European Union, one of the constant councils of this union was Union of European Medical Specialities (UEMS). By UEMS in Brussels the duty, authorization and responsibilities of a PMR Specialist were defined as " an independent medical speciality concerned with the promotion of physical and cognitive functioning activities (including behavior) , participation (including quality of life) and modifying personal and environmental factors." in April 28th 1989 and it was also confirmed by executive committee (4).

What about the situation in Turkey?

It will be useful to start from the past: It's known that in Egypt and Madagascar in B.C. 2000's thermal springs were used for health and therapy and physical technics intended for cure have been used before Hippocrates. B.C. 400's, Herodotus brought the first scientific view to thermal spring therapy. Thereafter, in Anatolia spring water was started to used for therapy, social aims and cleaning up. In 18th century spring water showed a scientific development, in 1930-1940's educational studies associated with this topic were initiated in Germany and France. In the beginning of the 20th century Ottoman Sultans requested a physician to the thermal springs in Yalova by the recommendation of medical school. However, this contemporary step was taken by Our Great Leader Atatürk. In 1936, Atatürk has taken the lead of the thermal springs in Yalova to become a modern curing center.

In 1898, the Ottoman government has decided to bring a German professor to make a radical reform in medical education. For this reason inside the walls of Topkapı Palace a building named Gülhane which was the old military high school assigned and it was opened in December 30th, 1898. The management of the massage part of Gülhane was given to Dr. Hoffman who came from Germany and his assistant lieutenant Şemsettin Ateş (Mustafa Şemsi). Dr. Hoffman started to give massage training an hour per week and established a mecanotherapy salon. When Dr. Hoffman retired in 1904 and turned back to his country, Şemsettin Ateş was assigned to "Massage Therapy" teaching and he had maintained this task until 1933. Gülhane was carried to Ankara Cebeci Hospital in 1941 and water, electricity, light and exercise therapies were started to be done in modern standards.



Figure 3. Ord. Prof. Dr. Osman Cevdet Çubukçu

However, I want to talk about Ord. Prof. Dr. Osman Cevdet Çubukçu (1895-1965), the institutor of our branch, shortly (5) (Figure 3). Osman Cevdet Çubukçu went up the line as a volunteer like so many medical students and he saved hundreds of patients' lives in Dardanelles war. The remarkable point in his bibliography should be that when Prof. Çubukçu went up to line in April 1915 while he was a medical student he realized plenty of hand wounds associated with severe pain that couldn't treated easily and he was the first physician who defined this painful situation as "Main Epaule Syndrome" in our country. He gets the scholarship of French government in 1926 and goes to Paris to have a physiotherapy training and establish this clinic in the faculty when he is back. The book of "The Indications of Physiotherapy" which was written by Dr. Çubukçu in 1928 is the first printed publication about physical therapy in Turkey (6). By the directive of Atatürk the studies for making Darülfünun which was the single university in Turkey, a contemporary university were got started in 1932. In this university reform period Dr. Çubukçu had a part in the staff of modern Turkish university which he deserved and he continued his studies as an associate professor in the Medicine Faculty where is Vakıf Gureba Hospital today. He worked for 4 years in the establishment of Yalova Thermal Springs that were renewed by the directive of Atatürk and tried to place the modern thermal springs practices that he observed in Europe.

Dr. Osman Cevdet Çubukçu became a professor in 1937, he instituted the first inpatient physical therapy clinic of our country in 1945. Prof. Çubukçu published the first scientific journal with regard to physical therapy entitled "The Journal of Turkish Rheumatology and Rehabilitation" in 1954. The journal became an official media organ of "Turkish PMR Society" which was established in 1958 and provided hundreds of scientific studies to reach Turkish physicians for long years. From the beginning regularly published journal's name was changed to "The Journal of Turkish Physical Medicine and Rehabilitation" and it was accepted to Excerpta Medica. Here, we mentioned with high respect: Prof. Dr. Hami Koçaş, Prof. Dr. Merih Odman, Prof. Dr. Necati Arı, Prof. Dr. İsmet Çetinyalçın and many other professors who contributed efforts for the establishment of PMR in Turkey.

Nowadays, PMR branch undertakes the therapy and cure of the events that affect a patient's function and performance. The combined use of medicines, physical modalities and several educational approaches make the optimisation of functions. Physical Medicine and Rehabilitation Specialists approach integrally to acute and chronic problems such as musculoskeletal system disorders, neurological diseases, amputations, disorders of pelvic organ function, cardiopulmonary failure, chronic pain and impairments with respect to carcinoma. They are responsible for all activities of a rehabilitation team comprised of many health professionals. Physiatrist can change the rehabilitation protocol by considering the other rehabilitation team members' recommendations. We can say as " In all cases the last decision and responsibility belongs to the PMR Specialist.

What is the point of view of WHO?

The World Health Organisation's (WHO) definition of rehabilitation is "Rehabilitation of people with disabilities is a process aimed at enabling them to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels. Rehabilitation provides disabled people with the tools they need to attain independence and self-determination." (7).

Two models are used to define the concepts of health and disease. The first one is biomedical model, and the second is quality of life model. Biomedical model is the traditional one that is more familiar to physicians and other health care professionals. This model focuses on the etiology and the biological, physiological and clinic outcomes while trying to find out the reason. In the last century, this model enabled many advances in medicine. The quality of life model focuses on the functions and well being. The complex behaviors are tried to be explained by using social sciences, psychology and economic science in this model.



The process resulting in disability needs to be revealed in order to determine which health services will be presented in rehabilitation. The functions of tissues, organs and systems are altered particularly with aging. Physiologically, the reduction in the capacity of various systems, in the ability of adapting environmental changes and in the ability of responding stress makes individuals more sensitive to geriatric diseases. In addition to, this increase in the sensitivity, some intrinsic factors also contribute to more prevalent disabilities in older ages. In fact, these factors are not only present in older ages; they are also seen in individuals of all ages. However, the belief of "it wouldn't happen to me" is fairly common.

What are the factors affecting disabilities?

1. Intrinsic Factors:

- Comorbid diseases (Presence, severity, duration)
- Comorbid impairments (Poor cognition e.g.)
- Patients' education
- Patients' culture

2. Extrinsic Factors:

- Medical treatment
- Preventive health care
- Rehabilitative treatment
- Physical environment
- Social supports
- Finance

The presence of so many factors that affect each other requires assessment of functions as well as quality of life. The first approach by WHO is the establishment of the International Classification of Impairment, Disability and Handicap (ICIDH) (8). According to this classification, some definitions were made but I will not mention all of them.

Health: The state of physical, mental and social well-being

Disease: An intrinsic pathology or disorder that gives rise to changes in the structure or function of the body.

Impairment: loss or abnormality of structure or function at the organ system level

Disability: Restriction or lack of ability to perform an activity in a normal manner or a disturbance in the performance of daily tasks

Handicap: Disadvantage due to impairment or disability that limits or prevents fulfillment of a role that is normal (depending on age, sex, and social and cultural factors) for the affected individual

As time passed by, it is realized that these definitions were not applying to functioning sufficiently.

- ICIDH has described the components of disability on a linear, progressive scale
- Disability and quality of life are relativistic and multifactorial
- ICIDH is insufficient to define these terms
- Does not include the environmental and personal factors

WHO has conceptualized the framework of International Classification of Functioning (ICF) with modern understanding of disability, containing both a medical and a social perspective.

The main differences between ICIDH and ICF:

- ICIDH uses negative terms like "disability" and "handicap"
- ICF uses neutral terms "activity" and "participation"
- ICIDH does not include personal and environmental factors
- ICF framework is bio-psycho-social approach to disability also includes personal and environmental factors

Consequently, some definitions were re-assessed (9).

Functioning is used as the positive or neutral wording and the negative aspect is called disability. Disability has changed meaning from being an individual's attribute of limited activities to currently being the negative aspect of functioning.

Activity is the execution of a task or action by an individual; "Activity limitation".

Participation is involvement in a life situation; "Participation restriction".

In summary, concepts are changing while functioning and positivism are becoming more pronounced. ICF and WHO will reveal the importance of this subject worldwide in the context of 5th World Congress of ISPRM. By the way, I would like to thank to Prof. Stucki for his valuable contribution (10). If we take a look at the current situation of PMR, we would see that many aspects were advanced but also many things were left incomplete. Recently, a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is done for PMR as for all fields. According to my knowledge and experiences, I would like to make some conclusions considering previous analyses:



STRENGTHS

- Rehabilitation is gradually acknowledged and understood by our colleagues and society.
- Although we mostly manage to focus on patient inheritance, team and function to change the perspective of society about disabled individuals, long term programs for disabled people are not developed yet.
- The point of view of governments and local authorities on this subject should not be limited only with the International Special Days of Disabled Persons.

WEAKNESSES

- The specialty of PMR is not as comprehensive as it should be and has limited resources.
- The evidence based medicine for the effectiveness of treatments and programs is not that explanatory.
- Both the effectiveness of physical agents used and the comparative results of rehabilitation programs are not sufficient.
- Rehabilitation concept has not been clarified due to the predominance of other disciplines using this field as a complementary treatment (particularly in situations related to handicaps such as the interaction of clear results of surgery criteria with doubts in rehabilitation criteria).
- The amount of training programs in this field is truly insufficient.
- The background differences in standardization among countries are an obstacle for national competence commissions to function sufficiently.

OPPORTUNITIES

- The interest in PMR is growing worldwide.
- Globalization is increasingly affecting health care services.
- The need for health care and services is increasing due to the aging population.
- Technical advances enable us cope with disabilities.
- We have a great political power to act on the communal changes.
- The increase in the elderly population, ease of transportation and the ability of elderly and disabled people to travel due to the improvement of wealth, economically makes different topics (such as tourism of disabled people) to be considered in countries.

THREATS

- Reimbursement for rehabilitation of disabled people have a lot of problems.
- Rehabilitation is not taken seriously enough worldwide and it's thought that it is arbitrary.
- Rehabilitation treatments are being restricted by the reimbursement systems in many countries including Turkey and the concept of lifetime or periodic rehabilitation treatment requirements have not been accepted.

In conclusion, PMR specialty is a positive branch of medicine based on functionality in which the high health quality is valid for all ages and conditions by the support of technology. Definitely there will always be failures but it's obvious that we are in an important evolution period in which the sources and services would be adequate, ethics of medicine would become more important, in all countries both medical technology and health enterprises would be in high standards. The developments in medical technology will save more people's lives and prolong the lifetime, as a consequence of these the need for rehabilitation services, physiatrists and our team will grow, the problems associated with rehabilitation field increase in number. Ever after "High Health Quality" that can be provided by rehabilitation functions will become more of an issue. hysiatrist should be a physician who not only extends lifetime but also gives quality to life. The main principles of PMR physicians are all the time professionalism, perfection, sense of mission, honour, honesty, respect to others and ethics of medicine.

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