

## MEDICAL ASPECTS OF MARTIAL ARTS

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### INTRODUCTION

We are entering into human body with movement activities. We change all his parts; we affect him as a complex. It is necessary to cause at all levels, at physical, spiritual and social human being. This is the only possibility, how to understand him in right way and how to cause on him (Hodaň, 2000).

The movement system is the most frequent source of pain in live organism. The movement system is command by the mind. Body can fight against the mind only one way, to show the pain (Lewit, 2004).

People have to find time for relaxation, regeneration, rehabilitation etc. Leisure time is highlighted in the modern society. All should have possibility to find and choose the best free time activity, to improve his health, to develop his body and mind. Society should have interest to develop highly effective process of regeneration of labour.

There is a big tradition in combatives (Czech – úpoly) in whole world. Fighting has always been connected with humanity. If we consider the prehistoric origin of combatives we must come to the conclusion that, without developed martial arts, man was facing death and his tribe was in danger. Basic fight techniques and tactics came into being through hunting. The opinions of some palaeo-anthropologists even suggest that hunting is as old as mankind, since man is the only “animal” on the Earth that has no special natural organs adapted for hunting as the primary source of acquiring nourishment (Leakey, 1996).

We recognize level of combative systems: combative sports in the taxonomy of combatives. There are complex developing combative sports (aikido, tai chi, etc.) too, also know as a martial arts. Their main characteristic is their whole-life dimension and their development of a human being in more than one dimension, i.e. in the field of their body and soul, socially as well as spiritually.

The expression “martial arts” or “eastern martial arts” usually means systems originating in Asia. Martial art is not only the physical part but also artfulness linked to one’s body. It also includes specific notions of martial skills; it deals with fighting in a wider sense, focusing on creating something new but not destroying the extant. Asian concept of martial arts shows a wide, philosophic concept of the problem; the trainee walks on the way, it is their path in life; martial art is their life style or their part.

Our function definition lies in the four-dimensional characteristic of personality of a martial arts trainee, which involves biological, psychological, social and spiritual sphere. The basic functions of martial arts are bound to the individual components. Thus, they create bio-psycho-socio-noosphere stability. We differentiate the following functions: bodily (biosphere, complete development of the physical nature of a human being), psychical (psycho-sphere, psycho-hygiene, relaxation, self-fulfillment, etc.), social (socio-sphere, interaction, communication, and social self-fulfillment), spiritual (noosphere, self-cognition, purity, transition beyond the perceptible world).

Martial arts are in close relation with health and medicine. The structure of martial arts curriculum contents healthy exercises as their integral part. Some of the combative sports, especially competitive combative sports particularly forgot this medical aspect. They are focused on the highest performance at competitions as Olympic Games. Big group of the combative sports, called complex developing combative sports are highly aimed on medical aspects. Some of them are more known and practiced as healthy exercises (tai chi).

### DISCUSSION

There is an example: judo, a Japanese martial art founded in 1882 is traditionally highly connected with health. His founder, Jigoro Kano (1937, p. 23) (he is also founder and first head of Japanese Olympic committee) wrote: “...the ideal form of physical training can only be obtained from study based on the principle of the highest or most efficient use of mental and physical energy. I am confident that improvements in physical education in future will only be made along these lines. I

have already dealt with the two phases of judo: the phase as training in the methods of attack and defence, and the second phase which aims at the development of the body. For both purposes, what we call randori and kata are generally used as the means of training.”

According to official judo curriculum (Kano, 1994), a system of physical education ideally possesses three characteristics: it promotes the development of strong, healthy minds and bodies, is interesting, and is useful. Not only does Seiryoku Zen'yo Kokumin Taiiku (Maximum-Efficiency Physical Education) meet all three requirements admirably, it goes well beyond being merely gymnastics or simply a martial art.

This kata consists of two groups of exercises. One is practiced alone, the other with a partner. All but one of the exercises has direct application to self-defense. This kata should be ideal to use with judoka to warm-up with or warm-down from judo practice.

Today's judo practice is aimed mainly to high competitive performance. Kata (physical education forms) are not practiced (judo, 1967). Judo training contains only randori (competition) and power exercises. Randori is competitive discipline at all competitions, including Olympic Games. That is the reason for departure from early practice, when kata (educational forms) and randori (competition) were taught together.

That is a big problem in all martial arts. Beginning students listen attentively to fundamental instructions, hoping to progress quickly to advanced combat forms. This is a mistake. The foundation must be laid first and the superstructure built by degrees (Kano, 1994). Riegerová, Jančík and Kytka (2004) find that there is a tendency confirming insufficient compensation of both the unilateral training load and lifestyle in group of sportive judoists. This is result of non balanced judo training. The trainer and his trainees are victim of competition results. They have no time for all parts of judo training, includes randori (fighting) and kata (physical education forms).

Traditional competitive combatives as boxing or wrestling have a great history in Bohemia. They are, because of competitive aim, as well as other competitive sports, far away from health aspects. Those sports were not originally devised to develop the body harmoniously nor to make the body physiologically perfect, but to compete for some purpose other than these. It naturally follows that some muscles are unduly exercised while others are not sufficiently used. Injury is thereby often done unconsciously to some of the organs of the body (Kano, 1937)

Origin of healthy exercises in martial arts is close to ancient and medieval Chinese philosophy. There is a need to compare traditional and modern scientific sight. The main point is Qi (or Ki in Japanese; concept of vital energy). Research studies (Sancier, 2001) have pointed to various health-related positive effects of qigong (qi cultivation); however, problems in much of the current qigong research methodology have limited interpretation of the potential benefits of qigong. Research studies interpret positive influence of qigong (martial arts) training against pain, cancer, as an anti-aging exercise and for its benefit for quality of life (Jonas, 1999).

If we will see martial arts only as a movement art (without qi influence), we have to incorporate two factors. Simple combative exercises are grounded in [1] human phylogenies and combatives practices are a natural part of [2] movement ontogenesis and vice versa. In the most of martial arts techniques is an attitude, as concentration and preparation of movement system, the main part of action. It started in well balanced posture and continues with natural simply movements. It is joined with functional joint centralization, because only fully useful movement system can be effective in the combat. At other side the some movements are practiced as healthy exercises.

Lewit (2004) seems well balanced tonic and phasic muscles around joints as one of the aspects of evolutionary kinesiology. Functional joint centralization is one of the fundamental aims of postural therapy. We can practice it in bipedal position in various martial arts. The most frequent tai chi moves are right like that. Also karate kata (forms) and aikido pair exercises included functional joint centralization in natural straight posture. All that exercises are joined with natural way of breathing. Physiology of breathing helps physiology of axis organ. Other benefit we can see is fortification of abdomen muscle. We call it breath power in martial arts.

Other effective technique is proprioceptive stimulation. Combatives are taught barefoot on the mat, combatants are touching each other with major part of their bodies.

Next part of movement evolution of human being is active trunk rotation. Powerful moves of extremities, as we can see in striking techniques in most of martial arts (especially karate, boxing,

etc.), are output of trunk rotation. Complex spine work is consequence of different moves and contra moves of both of the shoulders.

## CONCLUSIONS

- Combatives are natural part of human movement activities.
- We have to recognize two forms of combatives:
  - Competitive combative sports
  - Complex developing combative sports (we can call them martial arts also)
- Traditional martial arts (especially Asian) are highly connected with health. It has to develop oneness of mind and body.
- Problem of modern competitive combative sports is in their aiming on narrow aim. They use only few moves and techniques. High sportive performance is contrary to complex developing.
- We have to accept, that Asian martial arts are connected with Chinese philosophy and with QI expression.
- Simple combative exercises are grounded in human phylogenesis and combatives practices are a natural part of movement ontogenesis and vice versa. We can use it for:
  - functional joint centralization
  - development of breath power
  - development of active trunk rotation

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