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Introduction

In the beginning of the XXI. Century the health status markers of the Hungarian population have not improved, based on these indicators Hungary is still remain one of the last countries in Europe from this aspect. This very negative state is valid for the smoking habits, the alcohol consumption, the high frequency of obesity in the population, the inadequate nutritional habits, the stressful lifestyle and the statistics of suicid as well. The serious mistakes of way of life causing health risks, practically involve the entire population in all age groups. The respective statistics concerning with the inadequate way of life and the general health predictors (KSH 2006) give undesired prognosis of the frequency of the most common diseases. The prevalence of the cardiovascular diseases, the hipertonia, the diabetes mellitus, the orthopaedic diseases, the postural disorders, the alcohol abuse related illnesses and the cancer is very high in Hungary (KSH, 2006). Improvement of these data can only be expected if we change our philosophy of education on healthy way of life generally (and not only in public education), and we emphasize the propagation of management of healthy life in the early stage of education. We should consider the children and the people with disability as severely risky groups. They can not or can hardly lead their life independently and they often need life long help or co-operation, suffering from dependency of the others. The limitation of independent life direction will cause forced way of life and changing it alone is a difficult task or mostly impossible. In the background of the poor health markers the reason can be the bad socio-economic status, with the insufficient nutrition, that can cause the retarded physical development and maturation. The main role of somatic retardation in the origination of the various internal diseases is undisputed (Kumar et al., 1992; Nie- man, 1995). The decrease of the health risk and in consequence
the improvement of the data of mortality and morbidity of the highly risky groups can be strongly supported by the integration of regular physical activity to daily life, since regular sport is one of the most efficient tools for it. The pathological impacts of chronic inactivity (hypometabolism) are widely known and they have primer role in the progression of almost every listed illnesses, and disfunctions.

The basic goal of our research was to clarify the reason why only a small part of the blind individuals of the 25,000-26,000 in Hungary, and the people with special health risk and youngsters do regular physical activity on acceptable level, and only a very few part of them are the members of sport clubs.

In the first part of our analysis, we demonstrated the morphological characteristics of the pathologically obese boys and pubertal boys by the help of the data of a nationally representative research.

In the second phase the somatic development of blind children with special institutional need, and definitely obese students were analysed. We were interested in if somatic retardation or anomaly could be observed among blinds and children with severe health risk by the markers of bone and muscle development. We have searched the prevalence of overweight and obesity in these populations.

We have also looked for answers what motivating factors directed the blind children toward sport and what useful effects of regular physical activity, and competitive sport could be identified for them. By the conclusion and correct application of our results the social integration of disabled people can be supported.

We have investigated if there was a real life quality improving impact of regular sport in the life of the adult B1 category blind athletes. We have also investigated if we could agree with the stereotype, well-known statements about the useful effect of sport, if we observed from the aspect of blinds.
Our goal was to clarify the possible reasons of the very few sport experts in the sport of people with disability, exclusively in the sport of blinds that lead to the undesired general situation in Hungary. In this relation, it is very important to reveal if the students of sport educations have sufficient information and knowledge on sport of people with disabilities and if they are correct or not.

We have searched answers if the students in sport and physical education had any controversial emotions of sport of disabled why they kept distance to the cooperation with them. If yes, what the reasons are.

**We have found**

1. The pathologically obese even the overweight boys until the onset and completion of puberty are significantly taller than the same age boys with normal (physiologic) body fat proportion. The bigger mean values of height to puberty is in close biological relation with the so called “endocrine” functions of the adipose tissue, which can cause taller stature and acceleration of maturation in the given ages. The average values of body weight in the “risky” groups and the WHO (1998) declared pathologic (obese) groups are definitely heavier in all the examined 13 age groups than in the currently valid representative standards. Although the differences caused by the critical body weight are not independent of certain characteristics of the morphological structure (physique), we believe that they are fundamentally the con-sequences of the wrong way of life and insufficient nutrition uptake. The differences between the relative fat content and BMI values are partly the result of the special group creation method, but the amplitudes of the frequencies and differences in the age groups demonstrate the definite role of way of life.

The markers of the morphological structure (individual values and averages of the metric index refers about the round-
ness of the chest, and consequently the whole physique) in the pathologically obese and overweight samples represent picnomorphic dominancy. Although the differences of the constitutional parameters between the compared samples can be caused by the modifying effect of the skinfolds, in accordance with the few data of the literature, the picnomorphic body remains characteristic, even if we eliminate the modifying effect of the depot fat.

The reduction of the depot fat mass and the decrease of its ratio to the body weight during puberty are characteristic in the pathologically obese group as well. We believe this phenomenon is the consequence of the physiological regulation of body composition analogue endocrine and metabolic changes. It is not enough efficient because even the transitionally reduced fat mass is more than the officially accepted obesity limit.

The critical values of the body composition of the schoolchildren is not only a current problem of our society. It was a continuously existing danger in the past too, involving the last 80 years. The long period has proved that the insufficiently applied or missed therapies stimulated the frequency of obesity themselves.

The hypotheses stated in the first part of the thesis were supported by our results, so they can be accepted without restrictions.

2. The somatic development of the B1 category blind boys is much poorer than the mean values of the sighted boys in the same age group. According to the literature, regular physical activity or sports has no impact on the longitudinal growth of the body and the biological maturation. Our results show that the lack of these effects can lead to a measurable somatic retardation.

As the result of the permanent lack of the necessary physical activity, in the sample of the blinds the overweight is
very frequent and the prevalence of obesity is lower, in spite of the fact that the body weight of the blind individuals are not higher than the mean of the same age sighted children. The consequence of the bigger depot fat and the similar body mass is the lower lean body mass of the examined blind children thus the somatic retardation has been proved again from another aspect.

According to our actual point of view the decreased vision and the total blindness are not linked to the alteration of the morphological constitution. The connatal blindness itself has no relation to any measurable extreme morphological structure or other not analysed human biological characteristics. The ratio of the moderately or definitely picnomorphic physique in our research is higher than in the not selected samples. It is remarkable, that the frequency of the leptomorphic physique is almost accidental among the examined samples, and the age related trend of the metric index, proved in several research is not supposable in our sample. One of the characteristics of the examined blind children is the more than half year physical retardation. Since these developmental specialities, rather anomalies as varieties can not be linked to the basic disability, to the blindness we believe that the very special pattern of the somatic characteristics of the examined blind children is caused by additional neurological or motor system damages, or developmental disorders in relation with blindness. We know well, that this effect can not be expressed numerically by our results. Our hypothesis stated in the first part can be accepted by considering the limiting effect of the previous statements.

3. Although the lack of vision is a serious limiting factor of the integration to society, taking part in physical activity or competitive sport from several aspects, the answers given to our questions reveal that the objective factors, as accessible facilities, travelling difficulties and available sports are not real barriers for sport of blinds. The low representation of
blinds in sport and regular physical activity cannot be explained by infrastructural reasons.

By the analysis of the received answers, the hypothesis concerning with the lack of infrastructure and accessibility to facilities as the reasons of the low representation of blinds in sport can not be accepted.

The low level of the intention of the blind people to do regular sport or physical activity is originated by subjective reasons. The personality development of blinds is going on significantly altered way compared to the sighted people. Shyness, and special attitude for living safe of injuries is very common among them. The bad experiences with injuries cause the danger avoiding, “family man” personality of them. Thus, the hypoactivity of the blind people can be explained by the special personality of them.

The insufficient participation of blind people in sport can be thanked to their special personal characteristics, thus our hypothesis concerning with the subjective reasons is proved.

The life quality improving and meaningful goal providing effect of regular sport are definitely existing facts in the life of blind people, as well. The opportunity for social activity, travelling to sport events, improvement of the physical fitness level are those advantages what can lead to the progression of life quality of the blind athletes.

Our hypothesis concerning with the life quality improving effect of sport for blind athletes is confirmed by our results.

The lack of the sport experts in the sport of blind is an obvious fact which has complex reasons. The lack of sport education on blind sport, or the very few similar courses for the sport experts have disadvantageous impact on the existing unfavourable state. The students in sport education have rather incomplete knowledge of the sport of disabled. In spite of this fact, the refusal of taking part in the sport of blinds is not sig-
The intention of the students is existing, but the conditions are missing. The information flow is insufficient, the special training courses and the PR activity are missing on the area of sport for blinds.

Our hypothesis concerning with the insufficient number of sport expert on the field of sports for blinds, is confirmed by the results.

**List of scientific publications of Dr. Péter Osváth**

**Publications from the thesis material**

**Publications related to the thesis material**

Publications in other subjects


