/20-45 days/ and a transition period to full-time athletic training.

TAT includes the following basic working forms: remedial exercises; general conditioning sessions; modified and special athletic workouts, and secondary accessory forms: massage /therapeutic, sports, under-water, etc/; individual work according to instructions; morning hygienic gym; sauna and baths.

Using these work forms, at first active physical exercises were performed for more than 2 hours daily and later on for more than 3 hours and a half. The motor regime included also many intensive everyday living movements. One day a week was allotted for unloading and recovery.

Remedial exercises are used mainly in the preoperative period, and in the two postoperative periods, with a mean duration of 30 minutes. Remedial gym is aimed at: improving the trophicity of the operated leg, prevention of hemarthrosis, maintaining and initial development of muscular force, rapid recovery of the range of knee-joint movements, increase of the general tone of the organism in the early period after the operation. This was achieved by the following means: fundamental drills for the operated leg; exercises with general effect; active and assisted exercises for regaining the motion range; ordinary strength exercises against resistance, isometric and isokinetic exercises for the muscles of the operated leg; equilibrium and coordination exercises in walking and running training, and the like. The procedures are performed after the 5th day, and for knee joint movements - after the 20-th day.

The general conditioning sessions are the basic form of work in all the periods of TAT. Before the operation and in the early postoperative period, the principal ask is to maintain the muscular power and endurance of the fallen ill athlete. In the following

periods, with a gradual inclusion of the operated leg the treining is aimed at developing the necessary for wrestling strength, endurance and flexibility, with the known means of wrestling training: for strength - exercises with dumb-bells, springs, elastics, Kettle bells, barbells, "gladiator", etc.; for endurance - Wunderwater wrestling", running, crosscountry, etc.; for strength endurance - isometric exercises, weight lifting, repeated moderate strength exercises and flexibility exercises. Conditioning work is carried out daily with a mean duration of the sessions 50 minutes.

The modified speciel athletic workouts start from the middle of the late postoperative period, and gradually approach the characteristic for wrestlers athletic training, except for the learning and perfection of new wrestling elements. At first, one works mainly with a "dummy" and a forewarned sparring partner. The transitional period for free style wrestlers is prolonged because of the restrained participation of the operated leg.

The analysis shows good results. The motion range of the knee joint recovered on the 25-32nd day after the operation, or within 5-12 days, because flexion andextension of the knee is allowed after the 20th day. The power of the basic movements of hands, trunk, head and of the intact limb decreases by 12% on the average till the 12th day after operation, it is restored within 35 days, and at the end of TAT, it is increased by 7 to 13% above the preoperative level. Flexion and extension power of the knee operated joint, because of contraindications for maximum efforts, was measured on the 45th day showing about 16% reduction of the values, as compared to preoperative measurements, and recovered till the end of training with insignificant differences. In 3 wrestlers it increased by 5% on the average. The hypotrophy measured by the muscle

size and compared with the unaffected leg, showed significant differences for the operated thigh. Within 30 days the volume diminished by 3.5% on the average, 15 days later it was unchanged, and recovered by the end of TAT with about 1.5 cm difference on the average. The muscle size returned to normal within about 10 months of the operation.

The 8 wrestlers operated on and subjected to therapeutic-athletic training, were actively engaged in athletic training activities of their teams 2 and a half months later, and after 3 and a half months they participated in big contests without complications and relapses related to the operation. Two of them took part in the European championship 5 months later and placed second and third.

ATMOSPHERIC POLLUTION AND COMPETITION SPORTS

N.Paparescos - Greece

During the meeting of the Regional Committee of WHO staged in Alexandria last month, where I was a representative of the Executive Committee of F.I.M.S., and where subjects of common concern both for WHO and FIMS have been discussed, I had the opportunity to draw the attention of the delegates to the increasing influence of atmospheric pollution on athletes, espeially on those of them engaged in competitions.

For this I got some information on every day efforts of athletes who were training or participating in trials, thus requiring an increased respiratory activity in stadia, schools or areas subject to a maximum admissible concentration of noxious factors and polluting agents in the air - substances which we refer to below.

The present communication presents some points of view which I first exposed at the Olympic Academy in 1972 and at a WHO meeting

this year. As a matter of fact, it has a preliminary character and needs a complete comparative study backed by the available literature data.

Air pollution is one of the most difficult problems of our epoch concerning the entire world, both on a national and international scale, because of its social, economical and sanitary effect, exerting unfavourable influence even on human survival.

The United Nations, the World Health Organization, the Council of Europe, etc., by setting up groups of experts, try to solve the problem giving criteria, norms and directives for the levels of admissible contamination for man, as well as identification and evaluation of the essential effects of environmental factors and particularly of the atmosphere on human health.

The purposes are as follows:

1. To improve the health state in all countries by means of environment control and protection.

2. To extend our knowledge of the harmful effects exerted by environmental factors on health.

3. To determine, as early as possible, the admissible levels of the noxious polluting agents.

4. To provide the member states of the WHO with a system for rapid alert enabling the detection of early morbid alterations or those of the collectivity welfare.

In addition to the other common risks related to the environment and to the other effects of the pollution such as soil, ionizing radiations, etc. due to the industrialization and urbanization of our epoch, the atmospheric pollution is of utmost interest for us.

The air being indispensable for life, its quality must be pre-

served and protected for the welfare of man.

The natural quality of the air can be modified by an important variety of its components or by introduction of some foreign element, particle, or gas. The harmful or noxious nature of this variety or of this foreign element, taking into consideration the present scientific knowledge, characterize exactly what we call "pollution".

The study of pollution evidently is complex and cannot be carried out at the moment without including multidisciplinary teams of chemists, toxicologists, clinicians, epidemiologists, statisticians, etc., because of the multiplicity of the phenomenon studied.

The severeness of the problem undoubtedly takes into consideration the importance of the means employed at present for the study of the pollution and its effects on health.

Slide No 1

A scheme is given of three principal polluting agents. I draw your attention to the sulfur dioxide, the suspension particles, the ozone, the carbon monoxide, the nitrogen oxide, the aerosols of the sulphuric acid, the carcinogenic hydrocarbons, smokes and dusts, and the metals which are of great interest for us.

Slide No 2

We present here the fundamental sources of air pollution and the main production of polluting agents in each category: industrial procedures, diverse combustions, particularly industrial and domestic, combustions of vehicles and other sources. In that case we remember that 150000 tons of SO_2 and 600000 tons of dust have been ejected in the atmosphere of France in 1970, and in the same year the mean concentrations measured in Delhi, Calcutta and Yamnur [illegible] been 601, 341 and 544 mg/m^3 respectively.

Slide No 3

Interrelation between pollution and meteorology.

a/ Concerning the influence of pollution on the meteorological conditions we remind that insolation in Munich has been reduced by some 20% in the last few years, because of air pollution.

b/ The meteorological conditions exert an influence on pollution. This problem is of great interest, because the climatic factor contributes to the dispersion or, on the contrary, to the concentration of polluting agents /air, sun, rain, soil, etc./.

c/ The effect of the acid fog or acid smog, oxidating fog or oxidating smog, as well as of a strong insolation by photochemical reaction has been already studied. The ozone neighbouring on the soil varies in the range 40 to 80 mg, being able to be decomposed under certain reactions, and on the other hand increase their proportion from 1000 to 1200 mg/m^3.

Slide No 4

Some aspects of the extensive pathology due to polluting agents are shown. Above 10,000 l of air passes through our organism every day and the phenomena of respiratory exchanges occur on the basis of our cellular metabolism, therefore of our life. But a number of facts makes the air pollution of great urban and industrial communities dangerous. It is almost constant. We certainly breathe day and night, throughout 24 hours, a contsminated air. The pollution of these human agglomerations is heterogenous, i.e. composed of individuals of all ages, new-borns, infants, children, adults and old people.

Some of them are healthy, strong and resistant, others are of less robust constitution and more susceptible to diseases. Others have suffered at some time of their life of broncho-pneumonia, asthma, tuberculosis, chronic bronchitis, emphysema, chronic

respiratory insufficiency, thus being exposed to acute infections. Others are chronic cardiac patients or affected from acute heart disease, more or less cured and restricted to a regimen and frequent medical control. They are most susceptible to relapses and pay most frequently the high cost of atmospheric pollution.

POSSIBILITIES OFFERED BY PHYSICAL AGENTS IN REFECTION

O.Petrescu - Romania

The increasing performances level in international competitions over the last few years has determined an increase in the physical efforts of athletes during training and competition. This necessitates the use of means for recovery of the capacity for effort of athletes.

The physical effort determines the appearance of an ergotropic phase, i.e. a state where the sympathetic tone is predominating. It is characterized by the stimulation of cardiovascular function which becomes apparent by a rise in cardiac rhythm, arterial pressure and cardiac output, by stimulation of the respiratory system function which manifests itself by an increase in the breathing volume and muscular tension.

With respect to endocrine and metabolic functions, an increase in ACTH and glycocorticoid hormones secretion is produced, as well as increased glycemia and stimulation of catabolic processes.

These functional modifications provide the organism with the necessary conditions for realization of high performances during physical effort.

The refection represents a process by which the organism pas-

ses from the ergotropic into the trophotropic phase, characterized by predomination of a state of vagotonia. Bradycardia, bradypnoea, reduction of the cortical activity and of muscular tension, stimulation of the anabolic processes, glycogen accumulation in the liver and synthesis of ATP at cellular level occur in this phase.

The methods of recovery-rest, alimentation, trophotropic medication and physical agents enable and accelerate the appearance of this trophotropic phase ensuring the normalization of the biological potential and the rapid return to the capacity for physical exertion.

The therapy with physical agents is a method of nonspecific action. These agents exert an influence on various receptors of the nervous system producing the modification of the functional states in the various systems of the organism.

The physical therapy aims, first of all, to affect the central nervous system by way of reducing the cortical activity which is necessary for psychosomatic relaxation.

In the second place, the physical therapy modifies of the tone of the vegetative nervous system towards vagotonia in order to facilitate the anabolic and trophic processes.

At the level of the cardiovascular system, the physical agents by means of the peripheral vasodilatation provoked, favour the accelerated elimination of metabolites resulting from the physical effort, and the return to normalization of muscular trophicity.

At the level of the muscular system, the physical agents, thanks to a thermal factor, produce a muscle relaxation and thus decrease the muscular tension.

From metabolic standpoint, the physiotherapy induced parasy-

mpathicotonia, enhances the anabolic and assimilation processes, pH normalization, reduction of lactacidemia and calciuria.

The means utilized by the physical therapy in refection include procedures such as: hydrotherapy, thermotherapy, phototherapy, massotherapy, oxygen therapy and aeroionotherapy.

Warm hydrotherapy exerts a sedative effect on the central nervous system, increases the tone of the parasympathetic nervous system and produces muscular relaxation. The following procedures are used: general warm baths at 37°- 38°C of 10-20 min duration and warm douches at 38°C for 8 to 10 minutes.

Hydrotherapy can be combined with a douche massage at 38°C for 8-12 minutes or subaquatic douches at 38°C for 6 to 8 minutes.

Thermotherapy intensifies peripheral circulation, accelerates the elimination of catabolites at the level of the systems participating in the physical exertion and produces muscular relaxation. Sauna procedures of 10-12 min and partial or general light baths of 10-15 min are also applied.

Phototherapy consists in whole-body irradiations with ultraviolet rays, favouring the rise of parasympathetic tone and the regulation of mineral metabolism.

Massotherapy is a valuable method in recovery, being effective in intensifying blood and lymph peripheral circulation, in accelerating catabolites elimination and in providing nutritious and energetic substances, as well as in ensuring the normalization of trophic conditions and relaxation state at the level of the muscular system.

Vibrotherapy produces a sedative effect on the nervous system and reduces muscular tension. Vibrating tables or vibrating bandages with vibrations of higher frequency and smaller amplitude

are used.

Oxygen therapy has a favourable effect on the quicker reduction of oxygen demands by utilizing individual apparatus or specially adapted spaces.

Aeroionotherapy applied with devices producing negative ions has a sedative effect on the nervous system and thus favours psychosomatic relaxation.

Conclusion

The possibilities of the physical agents to influence the functional state of various systems and organs render them most valuable in the process of refection, and warrants their routine use in practice.

EFFECT OF INTENSIVE TRAINING LOADS ON THE MORBIDITY RATE OF YOUNG ATHLETES

S.Savov, L.Tomov - Bulgaria

Determination of the adaptation possibilities of the organism, the health state and premorbid and pathological conditions as well as the elucidation of their etiological moments, is at present a subject of serious consideration. This is due mainly to the effect which they have on the development of sports mastership and the possibilities of enduring the stress of training.

The health state of the rising generation is considered as a basic criterion in the selection, sports specialization and prediction of development, because going in for athletics nowadays is impossible if the activity of some organs or systems is limited.

In spite of the constant improvement of training methods, the work loads /in extent and intensity/ always represent a potential

danger for the organism. This danger is increased also by a number of negative factors /endogenous and exogenous/ related to the organization of the educational-training process, qualification of coaches, medical service and characteristic features of the children's organism.

To estimate the influence of hard training on morbidity rate, we carried out observations in the Unified Sports School in Plovdiv over the period 1970-74. At various stages of the observation period, we studied a total of 386 children aged 11-15 years, 215 boys and 175 girls.

We have looked for a dependence between the regimen of children, training stress, nutrition, conditions and methods of training, duration of athletic training, on the one hand, and the physical development, toughness and health state on the other.

The regimen of the children is built up rather on the basis of experience and intuition, than on scientific grounds. In spite of the combination between motor activity and mental work, a number of negative elements are present such as excessive training, monotony and psychophysical exhaustion.

The amount of the training work with children is maximal - 16-22 hours at a relatively high intensity.

The training conditions are very good. The teachers working with growing up sportsmen have a sound training qualification, many years in sports and a good theoretical and practical preparation. The nutrition of children has a scientific basis. Each child before entering the Sports School has 1 year and 4 months training in organized groups, on the average, which creates conditions for a primary adaptation of the organism to the training stresses.

The physical development of children, estimated according to

20 indices, shows that the reviewed children surpass in all parameters the mean values of Bulgarian people. These differences are less marked in gymnastics, boxing and wrestling.

The physical fitness of the organism, estimated by the incidence of colds, skin thermometry and specific tests shows a low degree improvement.

The over-all morbidity of the children /according to incidence and severity/ from the Unified Sports School - Plovdiv, is higher than that of the control children from the school of general education "Ivan Vazov" - Plovdiv. The athletes under study get ill 3-4 times a year in the average, and their morbidity differs in character and structure from that of the athletes (with different ages) entered in the observation files of the District Sports - Medical Dispensary - Plovdiv.

Table 1

Contingent	Incidence	Severity	Mean duration
Schoolchildren USS	452.3	1336	3.1
Schoolchildren "Iv.Vazov"	352.4	844	3.8
Athletes from Plovdiv	160.0	511	7.4

The morbidity distribution by sports shows the highest values in gymnastics, swimming, wrestling, relatively lower in sports games and nautical sports. This can be easily explained by the fact that for sports games accelerated children with almost completed reconstruction of the organism are selected, while in gymnastics and wrestling it is the opposite.

The low meanduration of morbidity in the Sports School in Plovdiv shows that it is a matter of transitory affections but at

the same time it suggest an earlier starting of the educational-training work.

The morbidity structure shows highest percentage in colds /quinsy, respiratory diseases/ - 42.6%, followed by traumatism - 36.6%, ORL diseases - 6.1%, other diseases - 5%, gastrointestinal - 4.2%, skin - 2.1%, ophthalmic - 1.8%, cardiovascular - 1.6%.

Structure of the morbidity including 5% of the general one, according to systems: urinary 14.8%, nervous system 21.10%, infectious diseases - 2.3%, and others 59%.

The structure of the general morbidity in the control group shows once again the leading role of colds - 58%, followed by other diseases - 15%, diseases of the nervous system - 9.1%, digestive system - 6.2%, injuries - 5,8%, urinary system - 4.8%.

The comparison of the data about the severity of the general morbidity makes it possible to conclude that colds are the most serious - 38.31%, followed by injuries - 32%, other diseases - 12.6%, ORL diseases - 8.6%, heart diseases - 5.6%, gastro-duodenal - 2% and eye diseases - 0.4%.

The alleviated days are mainly on the account of colds - 60.9%, followed by traumatism 13%, other diseases 9.9%, cardiovascular diseases - 8.4%, ORL - 71%, gastro-intestinal 0.8%.

In the control group, colds rank first in terms of severity, followed by nervous diseases, cardio-vasculer, urinary system, traumatism.

The colds comprise diseases of the upper respiratory ways, tonsils, quinsy - 91%, diseases of the trachea and the bronchi - 7.4%, diseases of the pulmonary parenchyma - 2.5%, and other diseases of the lungs - 0.4%.

The colds are closely related to the season /the months November, December, January, February and March/. Such a seasonal de-

pendence is not established among the men and women in Plovdiv actively engaged in sports.

Gymnasts, swimmers, wrestlers suffer often from colds which is most probably due less to the training conditions than to the unstable thermoregulation under the influence of the educational-training process.

Athletic injuries come in the second place after colds in respect to incidence and severity /in the control group it is on 5th place/.

Localization of injuries:

Head - 3.9%

trunk - 10.1%

Upper extremity - 25%

Lower extremity - 61%

A more detailed distribution according to body part affected shows:

Head - face - 78%

hairy part of the head - 22%

Trunk - lumbal region 64%

thorax - 24%

pelvis, abdomen - 12%

Upper extremity - shoulder girdle, upper arm - 20%

elbow joint, forearm - 22%

wrist, wrist joint - 58%

Lower extremity - femur - 12%

leg - 15%

ankle joint - 33%

foot - 16.5%

The localization of the injuries is in line with literature

data on the issue and corresponds to the participation of the variou various body parts in the accomplishment of motor habits. For instance, in football, lower extremity injuries prevail, and in volley-ball - those of the upper extremity. The greatest number of injuries of the trunk and head is observed in wrestling.

Injury distribution according to:

Site of sustaining injury - training - 79%
at home - 10.4%
with unknown etiology - 10.6%

Tissues: skin - 8%
tendons, joints - 33%
muschles - 35.5 %
bones - 23.5%

Severity: light - 88.8%
Medium - 7.8%
heavy - 3.4%

Days off: for light injury - 48%

Alleviated /reduced load/ days: for light - 68%
for medium - 19%
for heavy - 13%

The severe injuries include: fractures - 15, epicondylitis - 2, tendon ruptures - 1, cysts - 2.

The analysis of the injuries shows some characteristic features:

1. A great number of injuries are sustained during training.

2. Tendon and muscle injuries are about 70% of the total number which requires a proper preliminary preparation before competitions and training.

3. Heavy injuries are less common, but their severity is marked - almost 50% of the total.

4. With respect to the structure, severity and mean duration, the traumatism in the Unified Sports School is more similar to that of athletes under dispensary observation - men and women in Plovdiv, than to the control children of comparable age from the general education school.

5. A high percentage of injuries is observed in some of the sports:

gymnastics - causes: frequent separation of the body from the earth, landing, unsatisfactory insurance;

football - frequent contacts, unsatisfactory facilities, poor quality equipment;

basketball, volley-ball - causes: landing, contacts among players and ball;

wrestling - contact, technique, unsatisfactory facilities

6. Light injuries are observed more often in schoolchildren of the superior classes, and the severe ones - in pupils of VIth and VIIth classes.

7. Heavy injuries are observed mainly in gymnastics.

The third important morbidity problem are the o t o r h i n o - l a r y n g o l o g i c a l diseases accounting for a great number of lost and reduced load days.

25 children have been tonsillectomized. Many children suffer from radiologically diagnosed sinuitis - 41 /swimming, nautical sports, track-and-field athletics/. Otitis is most common among swimmers. The analysis of these diseases shows the need of prophylactic measures /hats, constant temperature of the swimming pool water, suitable clothing, etc./. Not less important are also the chronic tonsillitis having caused 85% of the renal complications. This problem requires the specialized ORL aid to be imp-

roved and the foci to be timely cured.

The morbidity of the c a r d i o - v a s c u l a r system in the growing up as compared to that in athletes under dispensary control in Plovdiv is lower /both with respect to the incidence and severity/. The prevailing conduction disorders point to errors in the methods, unsatisfactory recovery, increased demands on the cardio-vascular system. Protracted diseases which influence the general severity of the condition are uncommon.

The incidence and gravity of g a s t r o - i n t e s t i n a l diseases are very low. We consider that the improved and controlled alimentation /technological, medical and organizational/ is of great importance. The schoolchildren of the USS have a three times lower morbidity as compared to the control group. The same is valid for diseases of the nervous system and infectious diseases.

Nearly the same are the values for diseases of the urinary system /USS and the Control school/. In most cases they are related to colds or tonsillitis, and often are the result of premature including of incured children in training.

Skin and eye diseases are encountered mainly in swimmers /dermatophytosis, conjunctivitis/. Scabies is also observed sometimes - 1% and in hostels and close contact among the children may give epidemic bursts.

In the group "other diseases" we include: diseases of the blood vessels, anaemia, surgical diseases, diseases of the genital system, liver diseases, etc., surgical diseases being more common and the liver diseases - more serious.

CONCLUSIONS:

1. The compulsory study of morbidity in schoolchildren from the special schools subject to intensive training has a great im-

portance for the organization of therapeutic and prophylactic measures.

2. The morbidity in USS is rather high and requires organizational, methodical and sanitary measures for its lowering.

3. The analysis of the morbidity in gymnastics, wrestling and swimming calls for special attention.

4. The insufficient fitness of the children, lack of organized prophylaxis, inefficient protection /insurance/, inadequate preparation before training and competitive activities, unstable recovery, increased loads, unsuitable facilities which are not in compliance with the sanitary-hygienic requirements, are all factors contributing to a higher morbidity.

5. Some physicians often give ungrounded sick-leaves for an unnecessarily prolonged periods of time.

6. The registration and filing of the children's morbidity must be improved.

7. The protracted course of the disease is very often related to the resuming of training activities - before the complete recovery.

THE INFLUENCE OF THE RECREATIVE BODILY ACTIVITY FOR IMPROVING THE HEALTH OF GROWN-UPS

N.Hristov, V.Mihailova - Yugoslavia

The motor body activity considered from the point of view of man's welfare is becoming an extremely important factor for health, happiness, industry and for the protective capabilities of society as a whole.

Negative consequences taking place in modern society derive

from the failure to satisfy the basic biological and social needs of working people for systematic recreative activities.

Knowing that body recreation has a favourable influence on people's health, on the physical and functional capabilities of adults, in particular, we set out to verify its effect in a number of men and women, included in the groups for organized physical exercises of the sports club "Partizan".

Methods of Study

Men and women were investigated engaged in organised motor activity in the Society for Physical Culture "Partizan III" and "Partizan", "N.N.Bortche" from Skopje.

The first group included 20 women aged from 24-54, with different, mainly sedentary occupations, and with a static loading at work.

The second group included 20 men aged 24-58 workers with different, mainly sedentary occupations with static loading at work.

The selection of men and women engaged in organized motor activity was done in such a way that all regular participants during the investigation had been included, i.e. twice a week in the Society for Physical Culture "Partizan" in Skopje.

The regular classes of the group including older members consists of two different parts, with a duration of 30 minutes. The first part is a preparatory one. The twelve members are divided in two groups and participate in workouts with analogical program under the supervision of skilled trainers.

In the second part each member plays volleyball, basketball, tennis etc. according to his wish.

The programs for physical development of health and functional capabilities for the members of "Partizan" in Skopje who are

actively engaged in motor body activity, were obtained from the Center of Sports Medicine.

As basic parameters for evaluating the physical development are taken the height and weight of the body, the thorax volume at inspiration and expiration, the index of Herz, the width of shoulders, the pelvis width, the stretch of arms and the abdominal circumference.

Basic parameters for evaluating the functional capacity taken from the clinical examination are the pulse rate at rest, blood pressure, complex laboratory investigations, ECG.

The investigation of men and women engaged in motor activity was done in the autumn of 1973 for the first time, and the second investigation was carried out in May, 1974 after an 8-month organized motor activity period. For the study were used standard apparatus and instruments the exactness of which was checked beforehand.

In order to obtain a better idea of the men and women engaged in motor activity, as well as to find out the reason for their participation in organized training, we used the method of questionnaires.

The men and women were stimulated towards an active physical activity because of their objective condition, i.e. the moment when their body weight went up and their functional capabilities decreased, especially at their work places, when even at the slightest strain their breathing was encumbered, so was their cardiac activity, and they got easily tired. According to them the locomotor body activity relieves them and frees them from the monotony of the daily routine resulting from the static sitting position at work, the repeatedness of the same movements and the prevalence of heavy thoughts and problems in their minds. The motor activity

make them feel happy, makes their movements free and general relief sets in.

Women are stimulated towards organized motor activity most frequently because of cosmetic reasons. The aesthetic phenomenon in women affects not only the harmonious proportions of the body but also the general functioning of the locomotor apparatus. They also mention the fact that physical exercises create the feeling of calmness and satisfaction as if everyday strain and dissatisfaction suddenly disappear. Having once felt the positive influence of motor activity these women become the most ardent propagandists of recreation among their friends.

Each woman having once entered the gym and felt the satisfaction from recreation, despite certain obligations, will endeavour not to missing the next hour when she will feel vigorous and energetic, joyful and confident in herself.

Analysis of the Results - Discussion

In the analysis of the groups including men and women with different age and occupations, engaged in motor activity, we submit the results concerning physical development, health and functional peculiarities from which it is evident that physical exercises contribute greatly to the improvement of health and functional capabilities of people.

Considering the values of anthropometric indices in the investigated groups of men and women it is evident that the mean height in women is up to 165,1 cm, and in men it is up to 164,3 cm., i.e. there is a constant difference in respect to the height.

Considering the body weight, an average lowering with 3,600 kg. is noticed in women, and with 3,700 kg. in men which is an indication that systematic motory activity leads to body weight loss.

The chest volume at inspiration and expiration does not change considerably but the index of Hirz is better expressed. Its value in women is 7.7 and in men 8.0.

On the basis of the anthropometric measurements from the two groups, the inference is reached that there is some decrease in overweight due to the direct influence of the systematic physical exercises.

Comparing the relations of the functional characteristics of the two groups according to Tables 3 and 4 a certain increase is obvious of the vital capacity which in women has increased with 500 $cm.^3$ and in men with 590 $cm.^3$

Obvious is the influence of the 8-month locomotory activity on the respiratory system. Our investigation coincides with the data reported by Surkin in 1962 and Sokolov in 1965.

Following up the pulse rate at rest it can be seen that it has decreased by 4 beats in women and by 6 beats in men. The blood pressure in both groups under investigation has decreased due to the motor activity which is in line with the data of V.Gurgevitch.

In order to check up the reaction of the cardio-vascular system at definite muscular stress, the investigated group (men and women) were checked according to Astrand test. The data from both groups indicate a considerable improvement of functional capabilities (women with 1.4 (L_T/m), and men with 1.0 (l/T). Our observations coincide with the data of Astrand and Korobka.

From the obtained results it is evident that systematic motor activity influences directly all physical, health and functional indices of the men and women under observation.

Conclusions

The following conclusions might be drawn on the basis of the

investigation carried out:

1. Organized motor activity influences directly the physical, health and functional indices of both sexes (men and women) regardless of age and occupation, and especially sedentary workers exposed to a static loading.

2. What stimulates men and women to be engaged in organized physical exercises is the wish to improve their health and capacity for work, as well as the need of a mental relief.

3. The opinion was confirmed that programmed motor activity led to a considerable decrease in body overweight (kg) normalization of systolic and diastolic blood pressure, a decrease in pulse rate at rest and to a considerable improvement of the functional capabilities of the investigated persons.

4. It was also confirmed that recreation influences directly the mental relief of the individuals from both sexes.

5. The men and women investigated come in for motor activity sessions twice a week which helps them get used to organized physical exertion.

6. The hypotheses were completely confirmed that the programmed motor activity for 2 hours daily can improve health and increase the physical capacity for work of people.

A DIET FOR WRESTLERS

E. Dimov - Bulgaria

The rational feeding of wrestlers is essential for maintaining their good sports form, as well as the individual weight classes. It supplies the organism with sufficient power and plastic material which improves their sports work capacity and accelerates

the recovery processes. Therefore the proper feeding of the elite Bulgarian wrestlers is subject to special attention. It is supervised by the physician of the respective team bearing in mind the categories of the competitors, the training period and the weekly schedule for workouts and competitions.

Taking into consideration the peculiarities in the feeding of wrestlers, we carried out observations on the dietary regimen of 50 outstanding free-style wrestlers in camp conditions during a fortnight training period. Our task was to establish:

1. The calories amount provided for the wrestlers

2. The quantity and correlation of the basic alimentary ingredients (proteins, fats, carbohydrates).

3. The percentage food distribution during the day

4. The gustatory preferences of the sportsmen during that period.

During the observation period, the wrestlers were fed in a differentiated way, divided in three groups with three menues differing in the amount of calories, in accordance with their classes.

Caloricity and food composition were determined according to the products included, using the tables for food composition, published by the Nutrition Institute of the Bulgarian Academy of Sciences. The consumption control was carried out by the team physician.

Results

1. The calories amount received through food during the investigated period for group I including the classes up to 67 kg. was 4044 on the average; for group II including the classes from 68-82 kg. it was 4426 calories per day on the average, and for group III (90 - 100 kg.) it was 4513 calories per day.

Calculated per kg./body weight it amounts to 65.22 cal/kg. for group I; to 65 cal./kg - for group II and to 50.14 cal./kg. - for group III.

The given figures are mean, usually varying in a wide range according to the schedule of work loads and rest days. For instance, for group I there have been some days when the food caloricity came up to 3300 calories, and other days it came up to 4680 calories, for group II - 3800 and 4900 calories, and for group III - 4000 - 5000 calories.

2. As far as the second problem is concerned, i.e. the amount and correlation between the basic alimentary ingredients such as proteins, fats and carbohydrates during the period of observation, we came to the following conclusions:

The wrestlers from lighter classes (group I) received on the average 151 gr. proteins, 137 gr. fats, 523 gr. carbohydrates and 4044 calories a day. Per kg./body weight it comes up to 2.43 gr. proteins, 2.20 gr. fats and 8.43 gr. carbohydrates for the class 62 kg. 16% of the daily caloricity come from proteins, 30.8 - from fats and 53.20 from carbohydrates. The P:F:C ratio is 1:0.9:3.5.

The analyzis of the data shows that the amount of calories, proteins, fats and carbohydrates is within normal limits. The ratio of the alimentary ingredients is correct.

The wrestlers from middle-weight categories (group II) received daily on the average 177 gr. proteins, 167 gr. fats, 512 gr. carbohydrates and 4426 calories. Per kg./body weight for the class 68 kg. it amounts to 2.60 proteins, 2.45 gr. fats and 7.52 gr. carbohydrates. 17.2% of the daily caloricity are supplied by the proteins, 34.3% by fats and 48.5 by carbohydrates. The P:F:C ratio is 1:1.3:2.9.

It is noteworthy that in the above figures, the caloricity and the proteins are within normal limits, the fats are slightly increased while the amount of carbohydrates is insufficient. Their percentage from the total caloricity is also small. (48.5%).

The wrestlers from heavy-weight categories (group III) received on the average 186 gr. proteins, 173 gr.fats, 512 gr. carbohydrates and 4513 calories a day. Per kg./body weight for the class 90 kg. it amounts to 2.06 gr.proteins, 1.92 gr. fats and 5.68 gr. carbohydrates. The ratio of the alimentary ingredients is 1:0.9:2.8, the percentage of the proteins being 17.7, of the fats 34.3, and of the carbohydrates 48%. Insufficient for this group are the calories (only 50 gr. per kg./body weight) as well as the carbohydrates.

The third problem we had to solve was the percentage food distribution during the day.

The data processing showed that the breakfast caloricity is 1040 cal on the average. This is 24% of the daily caloricity. The lunch caloricity was 1880 cal. on the average, i.e. 43% of the daily caloricity, and the dinner was 1440 on the average, i.e. 33% of the daily caloricity.

The above figures stand out with the comparatively light breakfast (24%) at the expense of the more abundant lunch (43%). In cases of two workouts a day, and especially after a rather exhaustive training in the afternoons, we consider it to be incorrect. The dinner is within normal limits.

A certain correlation was found between the schedule of the daily and weekly work loads and the daily food caloricity for wrestlers which should be furthermore emphasized.

Concerning the last problem awaiting solution, i.e. the gas-

tatory preferances of Bulgarian wrestlers, our observations showed that they did not differ from those of the other Bulgarian sportsmen.

CONCLUSIONS:

1. The team physician must constantly supervise and control the wrestlers' feeding. A compulsory requirement should be the daily calculation of the caloricity and composition of the food offered and the complete conformity of the dietary regimen with the regimen of physical stress.

2. The wrestlers feeding, as well as that of other athletes should be individual and differentiated according to weight classes and training period.

3. The wrestlers under observation have received food with optimal amount of calories - proteins, fats and carbohydrates for the light-weight, and partly for the middle-weight categories. For the heavy-weight categories the caloricity was insufficient, chiefly at the expense of the lower carbohydrates amount. They should be more widely used in the menue of wrestlers.

As regards the percentage distribution of food during the day we recommend an increase of the breakfast caloricity at the expense of the lunch.

4. We consider useful a similar periodic analysis of the dietary regimen of competitors engaged in different sports with a view to secure its compliance with the rational sports feeding.

CONSIDERATIONS ON SOME BIOCHEMICAL EFFECTS ON MODIFICATIONS INDUCED BY DRUG THERAPY OF BIOLOGICAL RECOVERY

/A study of 28 weight-lifters/

A.Vasiliu, E.Georgescu, A.Tugui, R.Slavei - Romania

Amongst the complex measures of maintenance and recovery of the biological potential provoked by intensive training efforts, the use of ergo- and trophotropic substances, designed to recondition homeostasis and restore the functional capacity of the organism, is at present an important auxiliary method in the biological preparation of top performance athletes.

First of all it is necessary to point out that this practice refers to strictly physiological means, namely to eubiotics, normally participating in the metabolic processes of human organism. A number of essential biological factors, specific for the celular structure, are involved in the humoral and endocrine-metabolic regulation: vitamins, salts, minerals, amino acids, etc.

Although the importance of these ergotropic substances for athletic performance is well known, the pharmacological and biochemical studies in this direction are still sporadic and not always concordant. The publications of Chaurand J., Grandon H., Dragon I., Francillon I., Keul J., Lubich T., Mitolo M., Rognoni, Streicher M., Venerando A., must be noted amongst the most recent and significant ones.

In order to evaluate the real contribution of some substance associations of this category which are usually recommended in the biological preparation of athletes, the effects induced by their administration at various metabolic levels in top ranking weight-lifters were studied, and the behaviour of the various biological parameters reflecting the adaptation reactions in effort were fol-

lowed up. The interpretation of the biological variations occuring in the dynamics of the biochemical indices under the action of these substances in rest and specific effort makes it possible to draw some conclusions with a reference to their possibilities and limits to influence the performance indices.

MATERIAL AND METHOD

The experiment was conducted in a comperatively homogenous group of 28 weight-lifters of all classes, in two successive stages, under identical standard conditions. The athletes were divided at random in two groups of 16 and 12 individuals each; the first group was given an association of active substances /see further the details/ for 30 days, and the second reference group - placebo.

At the beginning and at the end of a training cycle of 30 days, the biological constants have been determined in conditions of rest and specific effort; these constants were considered as representative in the evaluation of the degree of stimulation and functional adaptation to effort /see further the details/.

Biochemical determinations were made strictly on urine samples, taken on "0" day before the treatment /before and after the effort/ and on the "30-th" day after the treatment in the same conditions. Urines was collected for a twenty-four-hour period preceding the test /20 p.m. to 8. a.m./, during and after the exercise for a period of 6 h. /8 a.m. to 14 p.m./ in order to evaluate the immediate repercussion of the exercise. The results were entered in the hour excretion. To diminish the various side effects on the results, a strict control was exercised on the factors of known variability:

- The alimentary regimen was calculated in conformity with

the energetic consumption and with the individual plastic necessities, evaluating the caloric ration with respect to body surface, number of training hours and body mass at a quote of 71 Kcal/kg.

- Volume and intensity indices have been taken into consideration with respect to the category of weight when setting up the training plan: the athletes were subjected to a specific progressive training stress in terms of intensity, of a mean duration of 3 hours.

- Ergotropic factors were prescribed in appropriate posology scheme: vit.B_1 - 2 mg/1000 Kcal; vit.B_6 - 3 mg/50 gr. prot.; vit. C - 2 mg/body weight/40 mg/1000 KCal/, arginine aspartate /Sargenor/ - 3 g/24 h; potassium gluconate - I gr/24 h; sodium phosphate - 2 gr/24 h.

PARAMETERS DETERMINED AND METHODS APPLIED:

Sodium and potassium have been dosed by flame photometry; urea - by diethyl-monoxide method; creatinine - by Folin-Wu method; 17 CS - by Dreckter method; AVM - by Pisano method, modif. by Gonnelian; carbonyl bodies - by Zamfirescu M.meth.; mucoproteins - by Biserte - Montreuil meth.; N amino- ammoniacal - meth.of Sörensen-Ronchese; FFA - method of Novak-Millan.

STATISTICAL ANALYSIS OF THE RESULTS

The adopted abbreviations and symbolis are as follows:

R_I - rest - before treat.; R_2 - after treatment

E_I - effort " " E_2 - after treatment

a - active substances /eubiotics/

p - placebo

On the basis of the individual data obtained, the significance of the differences was calculated.

- $R_I - E_I$ - effect of effort on the subject before treatment
- $R_2 - E_2$ - effect of the effort on the subject after treatment.
- $R_I - R_2$ - effect of treatment on the subject at rest
- $E_I - E_2$ - effect of treatment on the subject after effort
- $/R_I - E_I/ - /R_2 - E_2/$ - effect of treatment on effort

The active medication and the placebo treatment were also compared by the following individual calculation:

- $/R_I^a - R_2^2/ - /R_I^p - R_2^p/$ - comparison of the treatments at rest
- $/E_I^a - E_2^a \pm / E_I^p - E_2^p/$ - comparison of the treatments after rest
- $/R_I^a - E_2^a/ - /R_2^a - E_2^a/ - /R_I^p - E_I^p/ - / R_2^p - E_2^p/$ comp.treatm. on effort

RESULTS - CONCLUSIONS

The statistical analysis gives a characteristics for each parameter. The terms "treatment or active substances" are applied to the subiotic factors in the text.

Titrable acidity - increases SS but constantly under the effect of the effort before and after treatment; the active treatment tends to diminish the values at rest and after effort. The comparison of the treatments shows that the active substances determine a SS fall of the acidity at rest and after effort with respect to placebo values.

N amino-ammoniacal - increases S under the effect of the effort and diminishes S under the effect of treatment with active substances after effort. The comparison of the treatments shows less increased HS values in active medication after effort than under placebo effect.

Urea - increases S before and after treatment under the effect of exertion; the elimination is further enhanced under the effect of active substances VSS. The comparison of the treatments confirms that this increase remains SS at rest and becomes S after effort

with respect to the reference group /with placebo/.

Creatinine - does not show any significant variations both at rest and after effort, before and after treatment.

Carbonyl bodies - under the effect of the effort increase HS before and after treatment; the values tend to reduce VSS under the effect of treatment. The comparison of the treatments reveals lower S levels after effort in the treated subjects as compared to the placebo group.

Free fatty acids - diminish S under the effect of the effort before treatment and increase S after effort under the influence of the treatment. It is evident that the FFA levels at rest and after effort do not show any elevations during active treatment in comparison with the placebo group.

Mucoproteins - increase S under the action of effort before and after treatment; the comparison of the treatments shows that the mucoproteinuria level of the individual after effort has a higher S than in placebo group.

VMA-increases always HS under effort conditions; its values tend to fall under the effect of rest treatment and after effort but the comparison of treatments is not significant.

17 ketosteroids - increase HS under the action of effort before and after treatment; the elimination of hormones increases also under the effect of the active treatment at rest S, and after effort SS. The comparison of the treatments displays elevated levels of 17-ketosteroids elimination in individuals at rest S, undergoing an active treatment, and after effort SS, relative to placebo group.

Sodium - decreases SS under the effect of the effort before and after treatment: analogical variations were noted under the

effect of the active substances, but the comparison of the treatments is not significant.

Potassium - increases VSS, but invariably under the influence of the effort; the active substances increase TFS kaliuria, but the comparison of the treatments does not seem conclusive.

In conclusion it may be said that the subiotic factors used exert some influence on the metabolic processes characterizing the specific effort of weight-lifters - influence which is better expressed by the following parameters: 17 ketosteroids, mucoproteins, carbonyl bodies, N amino-ammoniacal, urea. The marked modifications may also suggest some discrete deficiencies becoming apparent during effort.

DISCUSSIONS AT THE "ROUND TABLE"

"ROUND-TABLE DISCUSSION - THE PROBLEMS OF SPORTS IN CHILDHOOD AND ADOLESCENCE"

Moderators: I.Iliev - Bulgaria
A.Shef - Yugoslavia

"The round-table discussion" concerning the problems of sports in childhood and adolescence has roused great interest and attracted more than 40 participants and listeners.

A number of problems of medico-biological, methodological and organizational nature have been discussed.

The participants in the discussion have unanimously accepted the biological age as an objective background for organizing and carrying out sports training in childhood and adolescence. The selection of children for different sports disciplines, the dosage of loading in the various age groups, and prognostication of the children's development both in morphological and functional respect should be carried out on the basis of biological age.

It has been pointed out that there are no anthropometric and functional norms for various age groups based on morpho-functional models of athletes, representatives of different kinds of sports.

In connection with the above said it is necessary to work out uniform methods for medico-biological investigation and classification according to morphological-functional signs of the candidates applying for sports schools, children sports schools and other similar forms of organizing the sports in childhood and adolescence.

It has been pointed out that in selecting children for schools for high sports performance, special attention is to be paid to hereditary prerequisites, especially for the development of mor-

phological signs which serve as a background of great functional capabilities. Puberty being the period when the complete structure of the organism is formed, and a period when sometimes unexpectedly substantial changes are possible, of considerable importance for the further development of the individual in the field of sports, the final selection in most kinds of sports should be carried out after the puberty. An exception are only some kinds of sports such as gymnastics, swimming, skating etc. where high performances can be reached at an early age.

There were interesting discussions concerning the nature, amount and intensity of training loads in childhood and adolescence.

Unanimously the authors have stressed the great importance of general conditioning and training in these age groups, the gradual increase of the work load and the variety of the training means applied for harmonious development as prerequisites for high athletic capacity for work.

As far as the size of loading was concerned there were two opposite points of view:

a/ children are capable to bear considerable physical stresses without any harm to their health on the basis of their ability for rapid recovery.

b/ at present day amount and intensity of the training loads, the children are subject to overstrain and overfatigue which lead to a high percentage variations from the normal conditfon of the cardiac vascular system and to considerable traumatism.

It might be supposed that the dissenting opinions, based on practical experience and on experimental data, express the different scientific level of the practical training activities with children.

The great importance of the doctor's supervision has been pointed out, especially when dealing with children, as well as the periodical EEG investigation of children engaged in boxing and wrestling.

For puberty the hormonal investigation is particularly adequate for evaluating the adaptation possibilities of the organism.

It has been stressed that in order to meet optimally the power and plastic requirements of the organism during the period of development it is necessary to work out norms for feeding of the various age groups, sports and sports disciplines.

An opinion has been expressed that the efforts of the sport physicians are not sufficient to solve the many-sided medico-biological problems of sports in childhood and adolescence. A closer collaboration is necessary with specialists from the public health network, school physicians, pediatricians, hygienists, as well as sports specialists, psycologists and sociologists.

Some serious social-psycological problems have been raised proceeding from the early involvement of children in intensive training activity, which isolates them from their habitual children environment, changes their mentality, deprives them of spare time for games, narrows their interests which inevitably leaves gaps in their education and general knowledge. At the present stage it is inevitable. Great sports requires a lot. It occupies the whole person, takes all the spare time and part of the non-spare time. Great achievements are impossible without these things. Don't they deprive the children of their childhood and what lasting consequences can they have for society in the near future? It might be difficult to say that at the present moment. At any rate the problem deserves discussion within a wider range of specialists and public

figures.

Finally, many participants in the discussion expressed the wish for more frequent round-table discussions with the participation of sports specialists and officials responsible for the development of sports.

DISCUSSIONS ON PROBLEMS CONCERNING PREMORBID CONDITIONS IN ATHLETES

Coordinators: I.Georgiev - Bulgaria
A.Iliesku - Romania

On the basis of the "round-table discussions of the participating specialists, the following conclusions can be drawn:

1. In the last years the frequency of the so called premorbid conditions in outstanding athletes, has shown a marked tendency to grow. Their percentage among the causes limiting the sports capacity for work, is close to and in some disciplines it exceeds the incidence of sports traumatism. Inspite of the growing incidence of these conditions in sports-medical aspect, there is not a detailed terminologic elucidation of the term "premorbid" which creates conditions for erroneous interpretation of their implications in sports-medical practice.

A temporary definition of the notion "premorbid" was given to all conditions where variations are established in the parameters characterizing the clinically healthy organism with good functional possibilities irrespective of the subjective self-estimation and athletic performance of the competitor.

2. It has been established that the presence of cardiac hypertrophy is not an indication of the so called "sports heart", and

also that an increased functional capacity of the myocardium is possible without hypertrophy.

3. It has been established that the mechanism of cardiac hypertrophy in morbid conditions and in conditions of athletic training is basically the same - an obligatory function of the myocardium. The differences lie only in the possibility to regulate the latter in athletes both in respect to intensity and duration. It has been pointed out that this circumstance is of considerable importance as it determines the particularly responsible task of sports medical specialists and of the scientific management of athletic training with a view to preserving the health and increasing the functional possibilities of athletes.

4. The importance of electrocardiography has been stressed. Applied in a dynamic aspect it is one of the hopeful control methods within the system of medical-pathological guidance of athletic training and the early diagnosis of the most frequent premorbid conditions - acute and chronic overstrain or overfatigue in athletes.

In conclusion it may be accepted that the problem concerning premorbid conditions in high-level athletes is of vital importance, and that systematic investigations are necessary with a view to elucidate their etiological nature, manifestation, treatment and prophylaxis, and especially of the so called non-coronary necrosis of the myocardium in athletes.

ROUND-TABLE DISCUSSION "TRAUMATISM AND SPORTS"

Moderators: N.Dagrov - Bulgaria
M.Lungas - Greece

The sitting was carried out with the participation of trauma-

tologists from the Republican Centre of Sports Medicine, the Sports Dispensary in Plovdiv, sports physicians, physiotherapeutists, methodologists in remedial gym and others. An active participant was also the representative from Greece Mr. Luugas, expert sports traumatologist.

The problem under discussion was the sports microtraumatism which was unanimously pointed as the most actual problem of sports traumatology nowadays.

Referring to some observations of our specialists and specialists from abroad, the conclusion was reached that athletic injuries have been obviously increasing during the past years. This increase is not parallel to the general increase of sports traumata but there is a considerable percentage increase of microinjuries relative to the total number of athletic traumas. Some facts and investigations have been reported proving undoubtedly the etiological relation between the hard training introduced in practice during the past years in the Balkan countries, and the increase of microtraumatism. Besides it was not the high loads which had led to an increase of athletic injuries but rather their improper application in practice.

An account has been given of the individual peculiarities of competitors which make them susceptible to microinjuries, such as inborn anomalies of the structure of the locomotor apparatus, acquired deformities of the latter and other genetically determined factors. The importance of the focal infection has been pointed out for the appearance and unfavourable evolution of microinjuries.

Considering the problem from an organizational point of view, all participants were unanimously of the opinion that an early diagnosis and prompt treatment were necessary at the initial stage of the development of microlesions. The decisive part as far as treatment and regimen of the competitor with a sports microtrauma are

concerned, should be only that of the physician-specialist.

An agreement could not be reached as far as the introduction of uniform terminology on sports microinjuries was concerned. It has been pointed out that in the different Balkan countries, as well as in different medical units the microinjuries are given different names.

Finally, the Management of the Balkan Union on Sports Medicine and the Managements of the Sports Societies in different Balkan countries are offered to exercise their influence in the solution of the following problems which eventually might contribute to the reduction of the incidence of athletic microtraumatism:

1. Organizing courses for coaches on the etiology, early diagnosis and prevention of sports microtraumas.

2. Some ways should be found to help up coaches in the selection of competitors and in individualizing the training process.

3. More profound investigations should be carried out concerning the diagnosis, treatment, rehabilitation and prophylaxis of athletic microinjuries.

4. It is necessary to detect and to cure early the focal infection, the surgical treatment being preferred.

5. The authority of the physician-specialist should be increased. His decision concerning the treatment of athletic injuries should be considered as the only reliable.

6. The differences concerning the terminology of microtraumas should be clarified and efforts should be made to work out a uniform terminology and classification.

In conclusion, the session pointed out the advantages of collaboration in investigating some problems of athletic microtraumatism between specialists from the Balkan countries and a proposal was made to find ways for cooperation.

"ROUND-TABLE DISCUSSION" - "KINESITHERAPY AND REHABILITATION"

Moderators: G.Karaneshev, D.Milcheva - Bulgaria

In the last few years physical culture and sports have been ever more widely used as treatment and rehabilitation means.

We have already gained considerable experience in this direction. With a decision of the Bulgarian Communist Party from August, 1949 remedial gym became a compulsory element in the treatment of patients in this country. For more than 25 years the Higher Institute of Physical Culture, respectively the Department of Remedial Gym has been preparing high staff - specialists in remedial gym, and so far about 500 persons have graduated from the Institute. Middle staff such as rehabilitation therapists have also been trained who contribute to the practical application of physical education and sports as remedial-rehabilitation means. In health establishments such as hospitals and sanatoria have been formed special sections, units and cabinets for application of physical exercises as free of charge remedial means open to general use. Remedial gym has been widely used in schools, rest houses, social care homes, enterprises and others. Some dissertations have been defended by specialists in this field. There is also a scientific organization existing, i.e. A Section on Remedial Gym at the Society for Sports Medicine with regular scientific activities.

The Round-Table Discussion on this subject within the program of the II Balkan Congress on Sports Medicine had the task to exchange information on these problems and to initiate a neighbourly collaboration in this direction.

There were many eminent specialists on remedial gym present at our talk, such as Professor Andrei Iliesko from Romanie, Dr. Bozhi-

dar Milenovitch from Yugoslavia and others from Bulgaria.

During the talks and discussions it has been established that the problems in this field are of great interest, that the mutual information and wide discussion will contribute to the further increase the part of physical culture and sports as remedial and rehabilitation factor in our countries.

It has been unanimously decided that the following recommendations should be proposed at the Congress:

1. Each congress should include the subject - physical education and sports as remedial and rehabilitation means. Eventually it might be at a sitting in a separate section.

2. The management of the Balkan Medical Union should include specialists in remedial gym.

3. A section or a working-group should be formed at the Balkan Medical Union on the problem of physical education as remedial and rehabilitation means.

We venture to recommend a wider exchange of information among our countries, exchange of delegations, organization of bilateral meetings, participation of guests in some activities of the sections etc.

ROUND-TABLE DISCUSSION "THE WOMAN AND CONTEMPORARY SPORTS"

Moderators: E.Saharieva - Bulgaria
Ad.Dekulesku - Romania

The following problems were raised for discussion:

1. Influence of the early sports specialization on girls during puberty and during their physical development.

2. Influence of hard training on the basic physiological functions of women

3. Sports and pathology in women.

The woman's destination to become mother determines some peculiarities in her body constitution and the functions of the basic systems of the organism. These peculiar features determine the differences in the qualitative and quantitative aspect of her physical activity and the degree of her sports capacity for work.

The differences between man's and woman's organism, hardly perceptible at the beginning of their development, increase with growth and become considerable after puberty. This determines the difference in the physical exercises for men and women.

In connection with the problems raised, speeches were delivered by Dr. Dekulesku, Dr. Saharieva, Prof. Morov, Dr. Savov, G. Markova, Dr. Trendaffilov, Dr. Danovska.

Dr. Dekulesku from Romania expressed the opinion of physicians on sports medicine in Romania about the early sports specialization of girls. According to them an early specialization might exist only in such sports as gymnastics, skating and swimming. Girls have to be engaged in all other kinds of sports after puberty. High work loads are not dangerous for women provided the athletic training is carried out after a good morpho-physiological development, and the specific features of the woman's organism are taken into consideration. She made some proposals concerning the future work of physicians supervising the activities in women's teams.

Professor Morov reported his observations connected with hard training in women and the course of their monthly period. Dr. Savov dealt with the problems concerning the early sports specia-

lisation, puberty and acceleration processes.

Dr. Saharieva answered some questions posed in connection with maternity in female athletes.

As soon as the discussions were over, the participants in the meeting came forward with the following proposals to the Management of the Balkan Union on Sports Medicine:

1. During the selection and early sports specialization in girls at the age between 11-15 sports-medical norms have to be worked out with a view to the biological age of the girls.

In connection with this in each Balkan country have to be formed special commissions which are to prepare control criteria (norms) and to present them at the next Balkan Congress on Sports Medicine.

2. In connection with hard athletic treining as far as women are concerned, the following has been offered:

The data obtained from the current sports-medical control sh should be used to individualize the methods of training, the athletic efforts and the period of restoration with a view to the morpho-physiological, nervous-endocrine and psychological peculiarities of women.

In this connection investigations should be carried out during the Balkan Games on st least two kinds of sports using unified methods. Thus we will be able to come forward with concrete proposals at the next congress, and eventually at the congress of FIMS.

In memoriam

Dear Colleagues and friends,

I take the floor with profound emotion in this moment in order to remember and to honour on this occasion the memory of two great personalities of the world sport medicine: Prof.Fl.Ulmeanu and Prof.Dragomir Mateev.

About 40 years ago they had for the first time the idea to create a Balkan Medical-Sports Union with the following purposes:

1. Collaboration of all physicians of the Balkan countries taking part at research activities or working in the field of sports medicine.

2. Research work and practical application of its results obtained by joint efforts, thus providing a contribution to the progress of the international sports medicine.

3. Better mutual understanding and friendly relations among the physicians of our countries.

Prof.Mateev left us earlier, but Prof.Ulmeanu kept fighting to the last gaps against the difficulties inherent in each beginning and trying to resolve with tireless energy the problems related to the consolidation of this Union and to the activities of the Balkan sports physicians.

He took steps to organize preliminary research work and scientific manifestations common to the Balkan countries and realized in Romania in 1973 on the occasion of the Balkan games of gymnastics and fencing.

This was to be the beginning of our mutual work and I hope it will go on existing. It will be useful to prepare communications and carry out research work on some common subjects for the future Balkan Congress.

We are indebted to Prof.Ulmeanu /supported by Dr.Paparescos/ for having organized a medical-sports information centre in the Balkans and for the printing of a journal of Balkan sports medicine. May be our common interest in the realization of these ideas will be the basis for their future creation.

For their incessant activity in various fields of sports medicine, Prof.Ulmeanu, Vice-President of IFSM and founder-member of the Balkan Medical-Sports Association, as well as Prof.Mateev and Dr.Filipov who had dedicated their activity to the development and establishment of this speciality will remain in our memory as examples of noble devotion to the idea which was the meaning of their life: the future of the sports medicine.

CONTENTS

Е Ц Н П К Ф К С - Издателско печатна база

SECOND BALKAN CONGRESS ON SPORTS MEDICINE

Тираж 500 Печатни коли 12