PROBLEMS OF SPORTS MEDICINE IN A DEVELOPING COUNTRY

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Developing countries are characterized by deficiencies, which may vary from region to region; but there is one which is common to all, viz., the lack of medical doctors. This is in fact one of the most serious shortcomings since it may retard development in all spheres. Thus every country is striving hard to correct the fault. Thailand is no exception in this respect although it has had modern medical education for eighty years and is presently producing with its four medical schools four hundred graduates annually. With five thousand doctors for thirty million people the doctor : population ratio is 1 : 6 000; actually two thousand doctors are working in the capital, so that in outlying areas the ratio may become 1 : 15 000 or even poorer. The condition is aggravated by the population explosion which percentually is one of the heaviest in the world. Experts have calculated that even with the addition of two new medical schools now in preparation, with the population increasing by 3.3 per cent there is no hope of arriving at a satisfactory doctor : population ratio within the next fifty years. The want of doctors is especially acute in the public health services. Many newly built health centres remain unmanned, and several developmental projects have had to be postponed. Even in the medical schools several departments are understaffed. Every responsible authority is highly concerned with amassing enough doctors to satisfy the basic need of the services. Such is the obsession that a few years ago, at a national medical conference in honour of the twentieth anniversary of the World Health Organization, when I, as deputy rector of the Medical Sciences University (now Mahidol University) advocated the introduction of sports medicine into the curriculum as an elective subject, one of the deans stood up to voice his opposition in very strong terms.

I did not argue with him because I knew that many in the audience shared his opinion. Who does not know that doctors are overworked, and that there are enough vacancies in the essential functions without having to create a new line of activity which to most people appears to be absolutely unnecessary? Modern competitive sports have been practised for decades without sports doctors, for *any* doctor would serve very well on the fields. In fact, even at big events usually only a nurse is on hand, and anybody injured is sent to the nearest hospital. After all, sports are just games, something for the youth and the privileged few who can afford them. The masses have neither the means nor the opportunity to indulge in pastimes; they are busy enough earning their daily bread. While parasitic and

infectious diseases are taking their heavy toll, and there are not enough doctors to suppress them, sports medicine is surely a blatant luxury.

Such is the reasoning in the mind of most people, lay and professional alike. But as a work physiologist I knew that such opinion would soon have to give way. With the rapid social changes and the widespread mechanisation even in our country, hypokinesia and degenerative cardio-vascular diseases are bound to become more and more prevalent. In fact, during these last ten years cardiac deaths have been steadily and alarmingly mounting in frequency. Sports promotion will soon come into the forefront, and sports medicine will have to be started somewhere. Certainly the medical school would be the best place; if it is not interested then some other institution must take over the job.

The development of any medical specialty may be divided into three phases: initiation, expansion and stabilization. Generally the first phase would be the most difficult, for the authorities must be convinced of the necessity for the new discipline, an organisation must be found to sponsor the project, and a properly qualified personality must be there to set the wheel rolling. From what has been said about the unfavourable circumstances in our country pertaining to sports medicine, one would reckon that its initiation should be beset with unsurmountable difficulty, but contrary to expectation the first phase has passed off without friction. In fact, one would not be far from the truth to assert that sports medicine in Thailand was born by accident rather than by design.

In 1965 our country was busy preparing for the holding of the V Asian Games. A medical committee had been formed to handle health problems, and at the suggestion of the Rector of the University of Medical Sciences a subcommittee was set up to examine the efficiency of the athletes, with myself in charge of the testing. I was sent on a hasty study tour to visit institutions of sports science in Japan, the U.S., the United Kingdom, Sweden, Denmark and Germany. On my return I submitted a report in which I recommended that a permanent body be established to deal with the scientific side of sports. The Fifth Asian Games Organizing Committee approved the idea and called the Sports Science Centre into existence, with myself as honorary director. For some time it was a one-man affair, with borrowed instruments and a few assistants in the Department of Physiology helping on a voluntary

basis. Later a young doctor and a nurse were recruited. During the Asian Games, with the personal help of my friend Professor Mellerowicz of Berlin, we were able to test the physical fitness of some two hundred athletes from the participating countries. That event was a turning point in the history of Thailand, when science and medicine began to play a part in the practice of sports.

At the end of the Games the Sports Science Centre moved into its present quarters in a part of the National Stadium, and became a division of the Sports Organization of Thailand. This is a government subsidised establishment constituted in 1964, and administered by a joint committee composed of ministerial and departmental representatives headed by the Deputy Prime Minister. Its aims are the promotion of sports activity in general and the improvement of the quality of the nation's athletes in particular. It works in close cooperation with the sport unions, giving monetary and functional support as well as advice and suggestions. Its running programmes include organising regional sports competitions, centralisation of sport unions, training of coaches, provision of athletes' hostels, and construction of a new and larger stadium. It is divided into five divisions: Administration, Treasury, Sports Promotion, Sports Facilities, and the Sports Science Centre. On the average a budget of around 500,000 Baht is allotted for the activities of the Centre (about £10,000).

Such was the founding of the Sports Science Centre and with it the initiation of sports medicine in Thailand. If the beginning has been surprisingly easy, the following process — the expansion phase — has been surprisingly difficult. The situation is primarily due to a lack of cooperation on the part of the athletes and a lack of interest on the part of the medical profession. Although it is generally known that the Centre has been established to help them, the athletes are strangely reluctant to make use of the services. The reason for this attitude is probably the fear that in the examinations some defect might be uncovered which would disqualify them. Good athletes are not easy to find; therefore the unions would humour them and leave them alone rather than to insist and run the risk of having to find substitutes. For these reasons not more than one-third of the better men ever submit themselves to our investigations. To overcome the difficulty, which had been evident right from the beginning, we have included a clinical section in the Centre, to give first aid and primary treatment of sport injuries, and serve as a clearing station. Simple physical therapy is also practised to accelerate rehabilitation in the less complicated cases. It is gratifying to observe that these measures are yielding the desired results, as the athletes are showing signs of more and more confidence and understanding of the activities of the Centre.

While the misunderstanding of the athletes has caused us a lot of extra work, it is relatively easier to overcome than the lack of interest shown by members of the medical profession. Considering the general shortage of doctors such a state is not perplexing. For sports medicine the difficulty is enhanced by the fact that the younger doctors do not want to risk adopting a job with uncertain future, while the older doctors do not like having to learn something complicated and yet not quite new. So it is, that two vacancies have been kept waiting for three years. This shortcoming has severely obstructed the expansion of the Centre's activity. With two doctors, one physical educator, and three nurses duplicating at times as laboratory technicians, progress has been slow. During the past four years five papers have been reported or published abroad, four have been presented at local meetings. The clinical work also is improving slowly in quantity and quality. In 1968 there were 190 cases examined and 82 treated, in 1969 the numbers were 222 and 106, and in the first six months of 1970 the figures are 180 and 106 respectively. Since November of last year the x-ray unit has come into operation, and in nine months has been used for 121 diagnoses and 21 cardiac volume estimations. Regarding sport injuries there is nothing peculiar, except perhaps in addition to "football knee" and "tennis elbow" we might add the "badminton wrist", a painful and chronic condition occasioned by the rapid flexion of the joint in making smashing drives. It may be very incapacitating and yields only slowly to antiphlogistic treatment.

In trying to overcome the limitations due to deficiency in personnel we have adopted a system of consultation with the help of our friends who work on part-time and on-call bases. Thereby we hope to increase our efficiency and gain greater sympathy from the athletes. This is, however, only a temporary measure, for no substantial progress could be made, until we have an adequate staff of our own.

We come now to the third phase of our elaboration, the stabilization of sports medicine. This has as its culmination the recognition of the subject by the medical profession as a separate entity. As part of the campaign we believe that the public must be rendered cognisant of the uses and possibilities of sports medicine. To this end four lines of action have been adopted: 1) the education of professional personnel, 2) the stimulation of sport activity among the people, 3) the demonstration of the value of sports in health, and 4) the promotion of research in sports science. In February of 1967, simultaneously with the official inauguration of the Sports Science Centre a short course of training in sports medicine was held for doctors and one in sports science for coaches and trainers, with the full assistance of the German Sports Union which supplied one professor, one instructor and one trainer from Berlin. The courses were received with enthusiasm, and at their

termination certificates of attendance were handed out to 22 doctors and 33 coaches and trainers, who now form the core of sports medicine and sports science of the country. These people have joined together to form "the Sports Science Group" which has as its aims the propagation and application of the knowledge of science and medicine in sports, and mutual improvement. One of the regular activities is the holding of scientific conferences, and these have been particularly successful, serving as it does, to attract more people into the Group. Thus the number of attendance has risen from 41 in March 1968 to 99 in July 1970. It is also remarkable that, while at the first conference all papers were either from the Sports Science Centre or the sports unions, at the last meeting 8 out of 12 contributions came from the medical and dental schools. It might be mentioned in passing that a second course of training is being planned for the near future, to which we hope to admit a larger number of participants.

To encourage the regular practice of sports among the public we have made a written suggestion to the Sports Organisation of Thailand that it adopt the awarding of sports badges to people of all ages who demonstrate a required degree of ability in sports, along the lines used in some other countries. The Organization is presently considering the matter. Another line of action is to demonstrate the preventive value of sports by a practical application. In December of this year, during the VI Asian Games, we will inaugurate a small diagnostic unit for preventive cardiology at the Centre. With this unit we hope to be able to render some service of real value to the community, while achieving our other aims at the same time. The rehabilitative aspect of sports, especially for cardiac patients, will also be taken up in due time, after we have collected sufficient experience.

In the field of research the main theme deals with training. This is actually the primary problem which led to the founding of the Sports Science Centre. For it is well known that our athletes are very poor in endurance, and sometimes degrade rather than progress on prolonged training. Most of our coaches base their system of training on their own experience. It remains for us to show them — if they would ever allow it — that probably what they teach is wrong, and that science may help to rectify their faults.

Another problem concerns the influence of the ambient air, especially its temperature and humidity, on athletic performance. Our typical environment is hot and humid. These qualities are known to have adverse effects on physical efficiency by various mechanisms. Our aim is to quantify the influences and to find ways and means to diminish them. For these studies we have designed a simple and inexpensive climatic chamber, suitable for a developing country, in which the temperature and the humidity can be varied throughout the range encountered in our country.

A third line of research touches upon nutrition, for which we need the cooperation of our friends in biochemistry. It is generally claimed — though never proved — that we generally do not eat enough meat, and this, so many people do believe, is the reason why our athletes have poor stamina. We do not believe that this explanation is correct, in fact, we do not believe either that we in a tropical country do require much meat. However, we will have to furnish the proof, and that will take a long time, because as yet very little has been studied of our diet. There are also other questions, such as the use of different kinds of rice and of legumes. There is enough work to do in this field, if only we have the workers.

A singularly enjoyable and rewarding line of activity is teaching. Steadily rising interest in the science of sports has been shown in these past few years. In 1966 I was asked for the first time to lecture on exercise physiology in the Department of Physical Education of the Faculty of Education, Chulalongkorn University. The next year an advanced course in the same subject was additionally in demand. Now my assistant is also teaching sports physiology to students at another college of physical education. Two research students are working on thesis projects, and two more are on the waiting list. Special lectures for senior coaches, sports teachers and physical educators are frequently asked for. However, to me the most satisfying development has been that in connection with the medical school. In March of 1969 I was asked to elaborate on the theme of sports in the aged at a refresher course given by the Siriraj Medical Faculty. That was the first time ever that sports medicine was mentioned in the medical school. Next February I am scheduled to give two hours of lecture on *sports medicine* as part of the residency programme. This may be just a small incident, but certainly a significant one, for it may mean a real beginning, and a change for the good.

Ladies and gentlemen, sports medicine in Thailand is still very young, and as such beset with deficiency diseases consistent with its infancy. If I have encroached upon your kind patience in narrating to you its unexpected birth and its frail condition, I beg to be forgiven. I have laid open to you our principal problems, some of which we have overcome, others we are trying to solve. We feel contented with the little success we have gathered, for it has been earned with great effort. But we are not proud, for we know that there is much more to be done. We will not rest satisfied until we have this medical speciality established and working at full capacity. It will take time to reach this goal. But the tree has grown roots and although these are still few and fine, the soil is rich and well prepared. Thus we enjoy the hope that some day this new tree will be fully mature, and will bless our people with its protecting and invigorating shade, giving health, efficiency and longevity.