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THE CONCEPT OF PROPHYLAXIS, CORRECTION AND COMPENSATION OF THE BODY POSTURE STATICS

Key words: *body posture, posture-genesis, prophylaxis, correction, compensation*

INTRODUCTION

Governmental demographic reports and international publications pertaining to society health describe the mid 90s as the state of the health crisis. The studies conducted in Poland [Kopczyńska-Sikorska 1998] allowed to distinguish the groups of the increased risk and health hazard and they allowed the elaboration of the topical and effective preventative and promotional programs, especially for children and youth. The health condition of the studied population in accordance with the accepted assumptions of the modern healthcare finds its reflection in the level and the dynamics of growing and maturation. In Poland, one of the substantial factors differentiating the achieved level of physical development is the degree of the urbanization of the dwelling place [Hulanicka B. et al. 1990]. In the course of the studies conducted, similarly as in the previous years, significant differences of the analyzed variables were found out in 1988, depending on the dwelling place and social conditions. Both boys and girls in 1988 were taller than their mates from 1978 in all living environments. The tallest were the youth and children from big cities- the smallest –the children and youth from the country. These differences were concerned with each group of boys and girls. The lowest increases of the body height were confirmed in children and youth from big cities. The significant differences as for the body height are still present among these three environments. The differences also pertain to the achieved body mass. In children and youth of 1988, the greater fat deposition in all regional groups- the significant increase of the thickness of fat folds in relation to 1978. The greatest increase was noticed in big cities children, the least in boys from rural regions. The phenomenon of deceleration of maturation rate occurred in Poland in the post-war period for the first time.

The authors of the study suppose that the slowing of the secular trend rate, especially in children from small cities, disadvantageous trend of weight-growth proportions and the already mentioned deceleration of the maturation rate are the result of the improper nutrition and inadequate physical activity and the captured biological effect of worsening of the living conditions and life of the families. As it is clear from the studies conducted in 1993 among children and youth aged: 6, 10, 14 and 18 –: the dispensing groups comprised respectively: 31, 2 %, 28, 4 %, 35, 7 % and 33, 5 % of children and youth due to the: disturbances in somatic development, psychic develop-

ment and defects and illnesses of the motor organs. The frequency of the incidence of defects, disturbances and chronic diseases varies depending on the age. The most frequent disturbances in the group of the 6-year old children are: the disturbance of the body statics and the illnesses of the vision organ and somatic disturbances. The same sequence as for the incidence is characteristic of the group of 10 and 14 year old children. At the age of 18, the most frequent are: the defects and illnesses of the vision organ, the lesions to motor organs and the disturbances in somatic development. Among the children and youth from the city, the increase is noticeable along with age of: the frequency of the disturbances of the body statics and vision defects and behavioral disturbances. In about 30% of the students, the number of disturbances in their health condition cause major problems and difficulties in school adaptation, in the choice of the further educational course and professional learning, restricting the normal functioning at the mature age [Ignar-Glinowska 1988].

In the structure of morbidity of students, the dependence on age, sex and living environment is revealed. Infectious diseases are more frequent in the city than in the country, in the country the peak of disease incidence is observed at the school age, and in cities- in the kindergarten age. The structure of hospitalization according to age groups due to the muscular and skeletal system diseases presents itself in percentage values as follows: children 5-9 years – 2, 8 %, 10-14 years – 4, 4 %, 15-19 years – no referrals. Summing up the data pertaining to the chosen measurements of health condition of children and youth aged 5-19, the authors of the study conclude that:

- the state and the health potential of children and school youth is characterized by substantial threats which pertain to the observed high values of deviations of health condition of the elevated coefficients of morbidity to acute and chronic diseases as for the respiratory, digestive and nervous systems.
- high indicators of hospitalization and mortality, especially the deaths, connected with trauma and poisoning.
- the increase with age of the number of deaths and health disturbances, especially in the population of boys at the age of 15-19, is disturbing.

In 1988, the idea of “Back School” was transferred to Germany from Sweden, Canada and the USA with the emphasis on the medical services as for the prophylaxis and correction of the vertebral column shape. The main centre for the popularization of this idea in Germany was Karlsruhe and one of the founders-H.D.Kempf. In Poland, first trials of establishing a school of this character were organized in Wrocław in the AWF (Academy of Physical Education) existing there. Unfortunately, despite the usefulness of the idea, the problem of posture defects and painful syndromes of the vertebral column was not solved in Poland [Starosta 1993].

The problematics of the correction of posture defects should be lie in the interest of the whole society. This could be achieved by presenting of the problem in mass media,

and definitely this can't be an incidental program but a fixed and permanent information, methodological, managerial site, etc. From our own experience in conducting the lectures in kindergartens and schools on "Simple methods of revealing the asymmetry in body posture of a child", it is clear that the knowledge on this subject of the teachers and parents is fairly varied. This problem, due to its character, should lie in the interest domain of educational departments and boards, territorial self-governing bodies and above all- the head teachers of schools and parents councils. The main curative and prophylactic should be movement in its motor aspect. Only systematic and rationally applied physical activity may substantially counteract further development of bad tendencies in the posture-genesis of the child. The problem of posture defects and of their correction is not big news. Unfortunately, it did not obtain any major solutions on any of mentioned decision levels.

SYSTEMIC SCOPE OF THE PROBLEM

If the description of the mode of conduct should be permanent, as Z. Drozdowski [1976] writes, it must be formed in the process of the individual formation from the early years, based on rational assumptions of building pro-social individualistic structures in a similar way as it is practiced in sports education programs. Following this type of thinking, the formulated concept aims at the holistic treatment of the problem, consisting of VII stages, in which the basic criterion of the division is the age, Tab 1. The presented system covers only, till its verification time, the defects in the body statics. It is a complex system; it covers the whole population of children and youth at the kindergarten and school age, the whole population of high schools students and also the active rest organized by the institutions and the individual persons above 16. The underlying aim of this structure is a healthy lifestyle in accordance with the 10 commandments of lifestyle, according to Cendrowski [1993].

For the reasons of prophylaxis, correction and compensation of over normative deviations and defects in body statics, three first stages seem to be most important (I, II and III). In this period monitoring of posture-genesis, effectively allows to influence the final shape of the future body posture. In the proposed project the majority of children and youth from their birth till 16 are covered by the obligatory correction-compensation program. In the consecutive stages: IV, V, VI and VII, one should emphasize self responsibility and the individual level of health culture. In these age ranges, one should rely on auto education of the individual approach to ones posture and health condition basing on the habits in accordance with Decalogue of the healthy lifestyle. A significant role in the necessity of the need for the therapy also in the form of movement propagation should be fulfilled by the mass media.

ORGANIZATIONAL SOLUTIONS

The most successful organisational and legal form as for the proposed concept seem to be the society –Academy of a Healthy Child (AZD), covering with its scope of activity the region of Lower Silesia Voivodship. In the organizational scheme, apart from the sector of financial, human resources and social service, one should also mention three major organizational profiles; Therapy, Education and Diagnostics and research. The society based on the Voivodship Centre of Sport and Recreation in Drzonków at/Zielona Góra, could cooperate with Physical Education Academy in Poznań and Wrocław and the local Health Protection Fund as for: education, staff solutions, professional matters and the elaboration of the possible physiotherapeutic methods as well as for the methodology and interpretation of the diagnostic results.

The initiation of the Centre for Prophylaxis, Correction and Compensation at the Academy of a Healthy Child (AZD), would be a leading unit for professional and statutory activity, employing doctors of different specialties corresponding with compensation – corrective actions, the activity of psychologists, rehabilitation instructors and other medical specialists. The studies conducted there would enable pointing out the persons requiring different actions of a therapeutic-prophylactic character depending on the health condition, the level of physical agility and special pedagogic needs. These persons may be divided into 5 categories:

1. Children with the medical contraindications for the programmed physical education and adults with contraindications for sport activity, with defects requiring intensive rehabilitation by the doctors and therapists.
2. Individuals with a low physical agility level
3. Individuals with low physical efficiency
4. Individuals with low level of mental, emotional, social development needing specific approach as for participation in physical activity exercises.
5. Children with a number of developmental disturbances, possible to be corrected in the Centre for Prophylaxis, Correction and Compensation

The subjects of the study are qualified to 3 groups:

1. Physical education, sport and recreation without curricular restrictions
2. Physical education, sport and recreation with restrictions and requiring specific attention, physical improvement and guided correction-compensation exercises
3. Remedy gymnastics or other rehabilitation classes (being the responsibility of the healthcare)

Individuals from stages: IV, V, VI and VII willing to undertake any prophylactic, compensation-corrective or leveling up actions would have to take special diagnostic examinations qualifying them to one of the three groups (A, B, C). Only on the basis of this division, will the individual be able to choose the adequate to his possibilities and needs, form of physical improvement.

The responsibility for the implementation of this task rests on parents, heads of specific educational boards, physical education teachers as for group A, The Physical Culture Department for group B and the Department of Health of The Municipal Board as for group C

A serious problem requires serious solutions. The confrontation of the medical and technical knowledge coincided with the rise of an original idea –the Internet based **System of Diagnostic Examination: I am fit, I am straight, Together**. The system is open and it prognoses other segments as: **I can see well, I can hear well**, etc.

Segment: I am fit. It consists of the results of the examination of children and youth with the doctors diagnosis and recommendations from group A. The qualification to this group would cover the children from 2, 3, and 4th category so as the head teachers of schools and kindergartens would have time for organization classes for these children according to their possibilities and health needs. These could be the separate lessons of physical education from groups: A, B or B connected partially with A.

Segment: I am straight. It contains the results of the children from categories 1 and 5. These will be classes in group C and B or in B partially connected with group C.

After introduction of the code, the information was available in school, so as to make it easier for the teachers of physical education in the individualization of work in groups of children with specific possibilities and needs.

Segment: Together. This segment is destined for a complex diagnosis and a multi-aspect construction of the remedy program. The system aims at collecting of all the information for the significance of making up of an individual correction program. These will include the results of hearing, seeing, lateralization irritability threshold of muscle fibers. Examination. A parent knowing the access code to the file of his/her child will have a topical control over the documentation. Only an archivist will be able to introduce authorized and topicalised exam results. In the framework of system: "Together", the exchange of experiences will be possible as well as of the results of the applied therapy and the control of child's progress in complex correction of every dysfunction. It is sufficient to know the access code to the file of the conservatively treated child, and the insight, control and the eventual suggestion of the corrective procedure is possible at every stage and every time by any doctor interested in the child.

Centre for Prophylaxis, Correction and Compensation would fulfill the supervisory role as for International Centers for Prophylaxis, Correction and Compensation. At this organizational level, one diagnoses and conducts therapy. The achieved results of the study sent to the centre are archaized subjected to statistical analysis as for the epidemiological character and as for the advancement in corrective therapy.

Diagnostics and research

The alarming statistics concerned with defects in the body posture of a child are

confirmed by our few year old research program – The Academy of a Healthy Back. In 2004, 2005 and 2006 as many as 10 thousand children from 13 regions in Poland were studied including: Kleczew, Przechlew, Łęczna, Krasnystaw, Jezierzyce, Pustkowieś, Żyraków. The results obtained so far reveal the scale of the problem. The defects in the body posture in the studied population of children and youth reach 70%, including: 10% of rounded back, 2% of concave-rounded back, 12% of flat back, 6% of right-side scoliosis and 33% of left-side scoliosis. The children with a normative posture constituted 35%. Orthopedic examinations accompanying medical checks prove that even the smallest defects in the body posture may transfer later on as vertebral column problems. The children afflicted with these are less able in the general sense. Their skeleton-muscular system, circulatory and respiratory systems as well as the nervous system do not develop optimally and the parents writing certificates for PE classes allowing children not to exercise only deepen the condition. It is the physical education teacher, who after consulting the internet segment: **I am fit** or **I am straight** can know what a child is allowed or not allowed to do, and the absences of children should not be tolerated.

As in every battle, the key thing is the diagnosis – most precise and covering the greatest number of individuals with the systematic studies of screening-epidemiological character. Thanks to these, one is able to learn about the defects in the body posture still in the phase of first asymmetries. The data achieved in this way are also a precious material for the office workers of the National Health Fund who plan the expenses for medical services and for the decision-makers responsible for the healthcare policy in the state. This is not about to create the queues for the budget money and to prove that the only method for improving the healthcare services is to increase the health insurance payments but to present the results that would allow the ones in charge to undertake rational decisions. Is it worth to finance expensive and rather dubiously effective treatment of scoliosis, rounded backs, concave backs, etc.? Is it perhaps better to invest in the complex system of an early diagnosis and the alternative, cheaper and effective methods of therapy? If the studies conducted in 2000-2003 screening studies were to be implemented with the traditional ambulatory methods, it would definitely last many years more. How, then, cheaply, easy and fast reach the potential patients and especially the group which is most important- the children and youth?

First step

The key to success are new technical, teleinformatic technologies- multimedia and the Internet. The answer is the Common Elementary System of Posture System Examination- **I am straight**. Anyone can take advantage of the program, anyone who has the access to standard multimedia computer with the headphone-microphone set. If the computer has Internet access, it is enough to write the address www.opiw.pl and then one will be able to copy the special application which will conduct the patient through the test. Those who don't have the Internet access may use CD-ROM with the

application. One should emphasize it that computer and the Internet will never ever replace the doctor, diagnostics and the rehabilitation options. It will, though, ease the revealing of problems and the result of the computer test may be the signal for a visit to a specialist. The tests perform the initial selection of the patients. The best results, however will be obtained if the Common Elementary System will find its place in the areas full of children and their caretakers- so in schools. Theoretically even now, there should be no problem to enjoy the advantages of the program. In the framework of Interklasa program, all gymnasium schools were equipped in computer labs with Internet access, many of such labs are being installed in elementary schools and in secondary schools. It does not look so bright in practice, though, as the equipment installed is too old-fashioned to work with the multimedia application. The proposed 7 functional tests of muscular-ligament-articulatory pathology applied effectively in the elementary diagnostics of posture defects in the form of the short instruction films are:

1. Trendelenburg symptom
 - The aim: describes the functional insufficiency of middle gluteal muscle
 - Posture – fundamental posture
 - Movement – the patient bends a straightened lower extremity in the hip joint
 - Negative result – in the consequence of this the pelvis descends to the other side
 - Points to consider: the symptom occurs in the hip joint dislocation greater trochanter of the femur to which the middle gluteal muscle is attached to goes up, the attachments come close to each other, and loosen muscle tone. Trendelenburg symptom occurs frequently with Duchenne symptom.
2. POP test
 - The aim: allows describing the existence of the adduction and abduction contracture in the hip joint
 - Posture – posteriori position of the patient
 - Movement – the examiner observes anterior superior iliac spines in the patient
 - Negative result – anterior superior iliac spines are asymmetric
 - Points to consider: If in the patient, anterior superior iliac spines are situated asymmetrically and the right one is lowered –this signals the adduction contracture of lower extremity and the abduction contracture of the left extremity.
3. P-P test
 - The aim: describes the contracture of ischio-shin muscles
 - Posture – fundamental posture
 - Movement –the patient bends with his/her trunk forward with straight-

- ened lower limbs trying to reach the floor with finger ends.
- Negative result – the contracture of the studied muscles makes the reaching of the floor with finger ends impossible
 - Points to consider: In compensation terms, it is possible in the condition of a slight bend in the knee joint. The distance between the finger ends and the floor is the measure of the contracture and we specify it with a “minus”. If the finger ends reach the floor or the finger ends will be well beyond the floor level, we give it with a “plus” value.
4. Bancroft’s test
- The aim: describes the protrusion of shoulders to the front or the back
 - Posture – Habitual posture
 - Movement – the examiner positions on the top of the shoulder a straightened hand with the upper surface heading back. One observes the position of the anterior wall of the ear opening
 - Negative result – front wall of the ear opening is situated at the palm side of the hand
 - Points to consider: Negative result testifies to a profound protrusion of shoulders to the front
5. Bertrand-Adams test
- The aim: reveals the asymmetry of the back outline
 - Posture – fundamental posture
 - Movement – the patient makes a bend forward, starting with head, next with the rested arms and ends with the trunk
 - Negative result – The examiner from a 1-2 m distance may observe the appearance of the costal prominence or lumbar torus
 - Points to consider: The study concerns the anterior and posterior planes of the patient.

The conducted exam at the age of 6-10 before the actual fixation of the functional scoliosis reveals especially the defective straightening route to the fundamental posture. The trunk visibly has an aberration in this phase of movement. This is the earliest clue concerned with the growth effect of the vertebral column. In low-grade scoliosis in the phase of bending of the trunk, spinous processes align in the straight line. During bending of the column, the support point is situated on their anterior rim. This causes contraction and stretching of ligaments, anterior longitudinal ligament, longitudinal posterior ligament, yellow ligament, intertransverse ligament, interspinous ligament, capsular ligament and especially of supraspinous ligament and of the short muscles of the vertebral column. This results in derotation of segments and in consequence in lowering or neutralizing torsions.

6. Thomas’s test
- The aim: allows confirming the contracture of flexors of hip joint

- Posture – back posture
 - Movement – bends maximally the hip in the joint and in the knee joint with the both hand capture below the knee, the other lower extremity lies freely
 - Negative result – lower extremity lying freely, bending in the knee joint and in the hip joint
7. Seyfried's test
- The aim: allows confirming muscular insufficiency in a flat foot.
 - Posture – the patient in the one-leg posture standing on the left leg, upper extremities abducted or on the hips for preserving balance
 - Movement – the patient turns the trunk right
 - Negative result – the foot under went flattening

Step two

The study performed in the School Centre for Prophylaxis, Correction and Compensation and the doctor's diagnosis being the synthesis of the physical exam and the examination with Posture-meter M (posture meter based on the projection moiré measurement). The panel of experts from the Research Centre of School Centre for Prophylaxis, Correction and Compensation with the help of dr. K Bibrowicz, as for professional matters, in order to meet the posture problematics elaborated a simple, uniform, complex and basing on methodological standards – the System of the Analysis of Body Posture. The proposed concept is also the trial of the complete solution of the mass screening studies of the body posture conducted in educational centres. The System of the Analysis of Body Posture together with the computer program „Posture-Screening” allow to conduct screening tests of the body posture in educational centres by trained nurses and/or the teachers of a remedial gymnastics. It allows fully safe and fast selection of children requiring the remedy-corrective gymnastics or these children who still require doctor's consultation. They also make it possible to register the body postures of the studied children, allowing the control of alterations in the posture and the evaluation of the effects of the correction therapy. It is based on traditionally acknowledged diagnostic methods as: photographic registration of the silhouette of the patient, photo-podoscopic registration and the evaluation of the feet shaping and the physical evaluation of the body posture based on the simplified orthopedic study.

The application of a simple diagnostics algorithm allowing to signify and to introduce to the computer memory of the identification data of the patient and also the information connected with the quality of his posture. Registering, apart from the physical evaluation, of the physical posture of the patient and the flattening of the feet, the system allows the verification of the data from the physical evaluation with the recorded images. Additionally, the system allows the export of the obtained data and specially elaborated module of the percentage analysis allows the elaboration of report results. The introduction to the school practice of this type of system would allow to

obtain uniform data on the scale, intensification and the character of the complications, deformations and scoliosis in the scale of the borough, district, voivodship and country, allowing to elaborate and to introduce effective programs of counteracting posture defects of the body in children and youth. It would also allow to conduct comparative analyses and to control their efficiency as for the realized prophylactic and therapeutic programs. The program is recommended for screening test and for control studies of the body posture and for the description of the advancement of correction processes.

Step Three

The design of the corrective-compensation program on the basis of the doctor's diagnosis obtained from a physical evaluation and the information obtained from the measurements with the system "Posture-Screening"

Therapy

The studies [Mrozkowiak 2004] in randomly chosen educational units of Warmia-Mazury Voivodship pointed to the lack of impact of the applied physical effort in the framework of the corrective exercises applied on the children's posture. Let's face the statistics. They clearly show that there does not exist any environment, in which there would not be any persons with even negligible asymmetry in the body posture. Most often, however, we are not aware of it, ascribing various ailments in the sphere of the vertebral column to other sometimes very irrational factors. The promoted program is based on the concept of the network of economically independent specialist physiotherapeutic offices; School centres for Prophylaxis, correction and compensation, providing services from rehabilitation with emphasis of diagnostics, prophylaxis, correction and compensation of the body statics disturbances. The reliability of the offered services and high qualifications permanently educated staff, supported by specialist equipment installed in offices, give hope for solving the problem of the zero efficiency of school corrective methodology. The centre having the proper premises and diagnostic-therapeutic background would be well prepared as for methodology and professionalism to conduct classes in the framework of A, B and C groups. This will allow the application of the adequate therapy to the doctor's diagnosis, using the system of Hoppe, Klapp, Lehnert-Schroth, Klinkmann-Eggers, Brugger, Nowotny and Majoch stationary one. Concentrated equipment will effectively allow to make up the prophylactic conduct or corrective-compensatory with strenuous-speed exercises on the corrective equipment, symbolically called OPIW-01", „OPIW – PLUS", being by the same time the multifunctional set for prophylaxis, correction and the treatment of posture defects. The sets consist out of 8-12 pieces; Gravitation stretch, back muscle strengthening piece, bench for symmetrical exercises, elongation exercises piece, twister, corrective chair, corrective mirror, corrective mattress, multifunctional piece for strengthening muscles, asymmetric set of rehabilitation blocks, gibotoracometer, derotator and scoliosis corrector.

In the organizational structures of the School Centre, there should exist a local

Centre for Health Promotion, financed from the budget means of the Municipal Office, parents and those interested. The service would be possible to be taken advantage of by all, especially by children and youth and adults with any problems as for posture and movement organs. It could also reach children from a few schools in the region. The centre's aim is to provide services from prophylaxis and kinesytherapy of the posture deformations, by applying effective means amend methods of their management; it also has to promote healthy lifestyle and has to have a coping character.

One should definitely give up the correction-compensatory program realized at schools and the obtained finances devote to the statutory activity of the Centre.

Segment: **Together** allows also the control of the quality and effectiveness of the work of Centres and Institutions by the Regional Representatives. The 4 year certificate will allow defectively maintaining a high level of the provided services. Independently from these strategic allies the thing will start to change soon. Teleinformatics is definitely the golden means solving the problems of the polish healthcare system and computer will never replace the doctor or a therapist applying holistic view. One should, however, hold this belief that also in other domains of medicine there may come to the popularization of the advancement of services and the lowering of their costs. The next stage of program development is the organization and the expanding of the school Centres for Prophylaxis and Correction of Body Postures. Major role in all this would be played by the city governments the effectiveness will depend on the right decisions.

The most important tasks in the proposed system in the specific stages will be:

Stage I (0 – 3 years of age) – perfecting the doctors' examination the parents held responsible for these. The elaboration and implementation of parents into the realization of the general development, corrective, compensation or therapeutic related to the needs and requirements of the age category

Stage II (3 – 7 years of age) – first compulsory, full and documented examination in accordance with procedure: **I am fit, I am straight**, introduction to the program of physical education of elements of prophylaxis, corrective-compensation therapy, or the curative therapy, the implementation in the framework of the increased hours of physical education (at least 30 minutes daily). Making it possible for the children who do not go to the kindergarten to use the same program offer as in Centre. The implementation of the system is the responsibility of parents and kindergarten's heads.

Stages III i IV (7 – 16 years of age) – the realization of the system in these stages lies in the responsibility of the head of the school, pedagogical council and parents' council, physical education teachers and parents. The consecutive control tests are documented in segments: **I am fit, I am straight**. The introduction of children into the therapy is in agreement with their needs and possibilities. Obligating of schools with specific legal regulations to promote health promotion policy, prophylaxis and therapy in the framework of education and extracurricular classes, making it possible for the pupils to have the same offer in the Centre. The introduction of a system in

primary and secondary schools may result in fixed habits agreeing with the Decalogue of healthy lifestyle.

Stage V (16 – 25 years of age) – is dominated by self-responsibility for health and level of health culture, auto education based on the Decalogue concerned with the healthy lifestyle, diagnostic studies. Depending on test results, the undertaking of physical education in the facultative form in one of three groups (A, B and C), using the offer of the Centre.

Stage VI (25 – 60 years of age) – Fixed pro health habits in accordance with the health life style. Permanent diagnostic control, emphasizing of prophylaxis of system illnesses. Autorealisation runs in home conditions, at the recreational premises and living quarters and in the Voivodship Centre for Sport and Recreation

Stage VII (over 60 years of age) – as above, propagation and implementation of therapeutic classes in senior house.

Education

The program remedying the problems of physical health and fulfilling all requirements of methodology of physical effort Ahmed at posture problems seems to be, presented I earlier research, the program of Academy of a Healthy Back [Mrozkowiak 2006]. The main presumption of the program are the action aimed at widely understood action for improving physical health of the public and also the care of the proper physical and psychical development of children and youth in Poland. The program has all the chances to be successful. It is open and managed by managers, and fed by the contents of researcher studies, mainly from Wrocław and Gozrów environment. Specific tasks of the program contain:

- Prophylaxis of the body defects of children and youth , especially from Urban environments;
- Popularising a health lifetsyle
- Health education of parents, youth and children
- Education of teachers, health promotion leaders, physiotherapists in corrective methodology

The implemented program will allow the realization of a number of important educational, health, and social aims:

- Balancing the needs in posture defects in kindergarten and school children
- Buying equipment for School Centers for Correction, Prophylaxis and Compensation in correction equipment for posture defects and for reaching optimum physical development
- Strengthening of parents awareness as for their role in shaping the positive psycho-physical development of their children

- Methodological perfecting of the PE and recreation teachers, who conduct corrective therapy
- Elaboration of techniques and methods of diagnosing posture defects of biological development and physical fitness
- Creation of a wide platform of cooperation of different institutions around the problems of health education

The most important educational tasks, therapeutic and diagnostics in the proposed system in the consecutive stages will be:

Stage I (0 – 3 years of age) – perfecting the doctors' examination the parents held responsible for these. The elaboration and implementation of parents into the realization of the general development, corrective, compensation or therapeutic related to the needs and requirements of the age category

Stage II (3 – 7 years of age) – first compulsory, full and documented examination in accordance with procedure: **I am fit, I am straight**, introduction to the program of physical education of elements of prophylaxis, corrective-compensation therapy, or the curative therapy, the implementation in the framework of the increased hours of physical education (at least 30 minutes daily). Making it possible for the children who do not go to the kindergarten to use the same program offer as in Centre. The implementation of the system is the responsibility of parents and kindergarten's heads.

Stages III and IV (7 – 16 years of age) – the realization of the system in these stages lies in the responsibility of the head of the school, pedagogical council and parents' council, physical education teachers and parents. The consecutive control tests are documented in segments: **I am fit, I am straight**. The introduction of children into the therapy is in agreement with their needs and possibilities. Obligating of schools with specific legal regulations to promote health promotion policy, prophylaxis and therapy in the framework of education and extracurricular classes, making it possible for the pupils to have the same offer in the Centre. The introduction of a system in primary and secondary schools may result in fixed habits agreeing with the Decalogue of healthy lifestyle.

Stage V (16 – 25 years of age) – is dominated by self-responsibility for health and level of health culture, auto education based on the Decalogue concerned with the healthy lifestyle, diagnostic studies. Depending on test results, the undertaking of physical education in the facultative form in one of three groups (A, B and C), using the offer of the Centre.

Stage VI (25 – 60 years of age) – Fixed pro health habits in accordance with the health life style. Permanent diagnostic control, emphasizing of prophylaxis of system illnesses. Autorealisation runs in home conditions, at the recreational premises and living quarters and in the Voivodship Centre for Sport and Recreation

Stage VII (over 60 years of age) – as above, propagation and implementation of therapeutic classes in senior house.

For the realization of the system in the town/city, one needs specialty trained and prepared staff to conducted directed therapy. This should be provided by the Academy of Physical Education which already conducts the classes from corrective and compensation therapy. The graduate of Academy possesses knowledge concerned with the effects of the applied therapy on human organism. I believe that for the introductory needs of the system and the changing role of physical culture in the society, one should change the curriculum and in consequence change the subject into: "The science of posture with elements of rehabilitation". Classes should be joined or they should structurally be supervised by chairs of gymnastics. The argument speaking for that is the permanent evolution of the physical culture meaning aiming at recreation, prophylaxis and healthy lifestyle. Very often the cause for failures in therapy is not the lack of the class itself but its proper dosing, intensity and "volume" which guarantee success in prophylaxis and therapy of movement. Gymnastic chair despite the professional preparation of students to their profession would fulfill the role of a social propagator of physical fitness. There should occur the cooperation of the programs-"the science of posture with elements of rehabilitation" and "Gymnastics" with other theoretical and practical subjects, in which corrective aspect would fulfill diagnostic function and gymnastics would prepare a student to apply the directed physical effort. Program cooperation should cover also the sphere of necessity of movement popularization seen as the element of a friendly environment and prophylactic one, also in its ontogenetic aspect.

WHO WILL FINANCE ALL THAT?

Each borough, which will respond to our offer and provide with the regulatory document of the Borough Council, a 15% of means from the implementation of the AZP program, will join the motion initiators in the framework of EU financing program (Norwegian Program) and plead for full financing of the program. For credibility reasons, the team of AZP diagnostic managers conducts in the borough accessing the program, a screening test of the posture of the population not smaller than 200 children describing the percentage of specific defects. Usually two weeks after tests, there is the meeting with the local self governing body, heads of schools, PE teachers, rehabilitation officers and the parents of the diagnosed children for discussing the test results and describing consecutive stages of the program. Such a meeting took place in Kleczew and Łęczna. Additionally one should consider the costs of scoliosis or Scheuermann illness elaborate according to NHF pricelist(5-7 thousand PLZ), which is more than a cost of a computer terminal with the software of Common System of Posture Examination. The examination of the local population of children makes it possible to reveal around 100% of posture defects. Around 70% of the cases will probably be treated in the centres, which will cost more or less 3-4 thousand a month. If we neglect such ac-

tions, we remain with about 30% potential candidates from the future operation.

I presume that **I am straight** system will be as effective as to quickly develop the telemedical offer of SZD. I guess that a computer is not only a perfect tool allowing an evaluatory diagnostics and promotion of the program but also is a fantastic partner of experience exchange between the interested in posture defects in the framework of segment: **Together**

CONCLUSIONS

1. The presented concept of the systemic solution of the health prophylactic of society covers the total sum of all problematic of health promotion.
2. The proposed system is not destroying anything, it accepts already-existing organizational structures of Education and Health, methodically prepared PE teachers, therapists, and doctors, and it bases on the publicly owned Voivodship Centre for Sport and Recreation and the amenities of the town.
3. The concept is open, it covers all city/town dwellers
4. It gives the picture of the situation as for health promotion including posture defects
5. The implementation of the system does not trigger substantial costs and it fills with meaningful contents the newly built sports and therapeutic amenities.

Table 1.

The concept of the complex system of health promotion and prophylaxis of body statics disturbances.

Stages	Age [years]	Personal responsibility	Institutional responsibility	Helping Institutions
I	0 – 3	Parents	Nursery school	Doctor
II	4 – 6	Kindergarten Head, Parents	Kindergarten	Health Promotion Centre, doctor
III	7 – 15	School head, Parents Council Physical Education Teacher, parents	Primary school	
IV	16 – 19	As above	Gymnasium and secondary school	
V	20 – 25	As above	Higher school	
VI	26 – 60	Autorealisation	Workplace	
VII	61 -	Autorealisation	Foundations and societies	

According to. Zbigniew Szot, *Wychowanie fizyczne i Zdrowotne* no 4, 1995 r. with amendments of the author

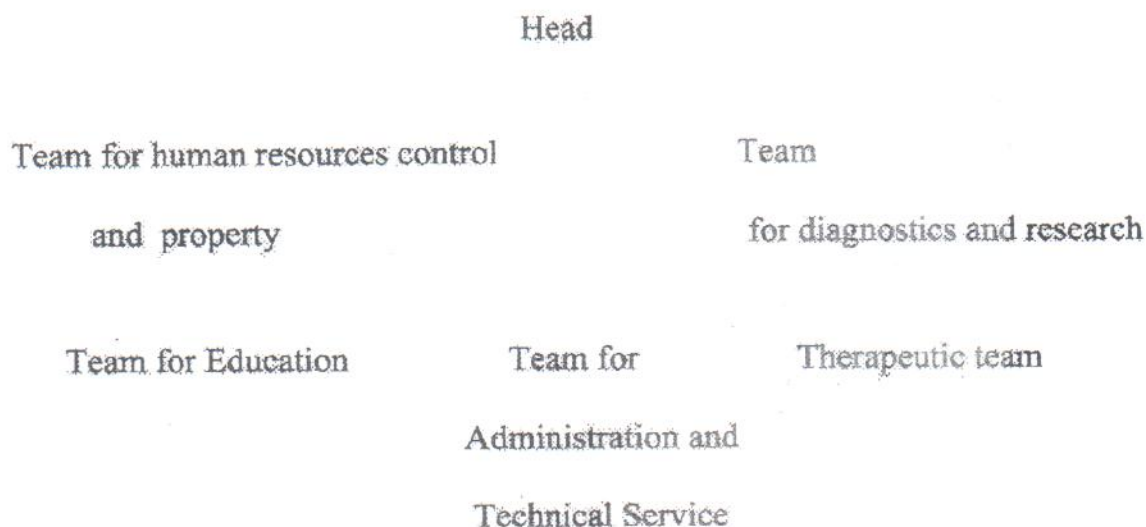


Fig 5. Organisational scheme and the tasks of Centre for Prophylaxis, Correction and Compensation

Tasks

The head – chosen by competition for 4 years (maximum for 2 cadences),

Having higher medical or physiotherapeutic education, managerial and negotiation skills, incentive for dynamic research management and cooperation with other centres, organizations of public welfare and companies for financing resources

Team for diagnostics and research – consisting from e.g. doctor, physiotherapist, psychologist, secretary, etc.

1. Conducting of diagnostic studies according with segment procedure: **I am well, I am straight**
2. Qualifying of children, youth, and adults to specific groups (A, B and C)
3. Recognition of family background history and educational and care needs
4. Of individuals qualified to groups A and B
5. Granting professional help to those interested
6. Provision of prophylaxis in all possible fields and range
7. Publishing of the analyses results of the completed research, contact with special units of higher education centres

Team of therapists – specialists from curricular activities for members of groups: A, B and C

1. They are responsible for planning and conducting of curricula activities.
2. They decide about the type, duration and advancement of activities
3. Preparation of indispensable tools for conducting classes
4. They carry on with the documentation
5. They exercise supervision of methodical-educational character during the

- program
- 6. Care about the prophylaxis in all possible ways
- 7. Initiation of cyclic programs „Posture-Screening”

Team for Education

- 1. Initial assessment of job applications
- 2. Assessment of Professional qualifications of potential workers
- 3. Organisation of inner trainings
- 4. Organisation of scientific conferences
- 5. Cooperation in all possible ways with nursery schools, kindergartens, primary schools, gymnasium schools, secondary schools and higher schools
- 6. Care about prophylaxis in all possible ways and aspects.

Team for Administration and Technical Service

- 1. Making up workers lists
- 2. Making up payment lists
- 3. Correspondence with underlying institutions, sponsors, parents, etc.
- 4. Information as for legal changes pertaining to functioning of Centres for Health Promotion
- 1. Cooperates with sponsors and reaches for the new sponsors
- 2. Reaches for the finance for conducting activity
- 3. Servicing and mending of the sports, rehabilitation equipment, etc.

Team for human resources control and property

- 1. Controlling the effectiveness a of action of the lower teams
- 2. The evaluation of Workers competence in specific teams
- 3. Taking care of safety regulations(BHP)
- 4. Taking care of the fast flow of information : head-workers

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