94 - THE IMPORTANCE OF CORRECTIVE EXERCISES IN PHYSICAL EDUCATION CLASSES.

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ABSTRACT

The ideal posture is the one that respects the anatomical curves of the spine, pelvic hip and scapular, giving balance and support to the individual, which should not only aim to the esthetic but also to the decrease of the extra charge over the body segments giving functionality to the body. The physical education teachers should advise their students to have the correct posture not only when performing certain activity, but in their daily lives, minimizing possible postural problems that the bad habit, compensations and exercises performed in a wrong way bring. This study is about a bibliographic research with an analyticdescriptive character, which looked for understanding what the importance is and the benefits that corrective exercises have over postural deviations from prevention to the triggering of them and its applicability in the school environment. Preconized to perform a physical evaluation to observe the possible gains and development of the student through the re-evaluation in the end of the school year.

Key-words: Posture. Postural Deviations. Corrective Exercises.

Introduction

The postural problems are affected by many factors, be them extrinsic, as the breast appearance, or intrinsic, caused by the weakness or stiffness of a musculature capable of triggering alterations in the body segment.

The corrective exercises look for orientating the individuals, working not only in the neuromuscular, anatomicfunctional, correction, but to give corporal conscience so that they have an adequate posture in a balanced way, aiming the reorganization of the compromised structures by the postural bad habits and mitigation of the already existent deviations, relieving tensions, laxities, excessive extensions and shortening of some musculatures.

This work has as objective to clarify over the bad posture and its consequences, verify the benefits of the corrective exercises on postural problems and its possible application in the school environment, propose the implementation of a physical evaluation in two measures, at the beginning and the ending of the school year, aiming to make better and correct the postural alignment in a ludic way.

The importance and the quality that the restructuration brings, both in global formation and life quality, aim the good postural habits and efficient body attitudes, mostly in children, because they're in bone formation and psychomotor development, easing the learning, memorizing and the auto-correction.

This study was based in the data analysis collected from literatures of scientific bases. It is about a bibliographical research with an analytic-descriptive character.

Posture

A good alignment of the spine is not characterized only for the individual aesthetic beauty, good posture, but also for decreasing the extra charge over the bones, ligaments, muscles and tendons, improving the functionality and giving the necessary stability for the body to remain standing, against the gravitational force disposed in it, being formed by three main tissues: bone, muscle and joint.

The vertebras were morphologically made to fit in one another, that is the reason of the irregularities, so, it's understandable as spine alignment the linkage of them without any deviation between the segment, without medial or lateral alterations.

In the posterior and anterior views of the column it should be preserved this alignment, in the lateral view, these curves are like a "s", in which we have a cervical lordosis, dorsal/thoracic kyphosis, lumbar lordosis and a sacral kyphosis, to dissipate the weight that is thrown over the column.

According to Lippert (2013, p. 293) the muscular contractions are the main responsible for keeping the body in the standing position both in static and dynamic posture. The muscles with bigger participation are named antigravitational muscles.

The posture is the alignment of many segments of the body of everyone, being possible to be analyzed from three different perspectives: the anterior, lateral and posterior in static and dynamic movements. "The natural curves in the spine are not fixed, but dynamic and change their formats during the movements and posture adjustments" (NEUMANN, 2011, p.312).

When an articulation s over the other there's a proportional stability from the column, if there's a destabilization the body makes a compensation to maintain the sustention base, but these counter balances can be crucial to the bad posture, creating many deformities since the non-visible to the notorious ones.

In the lateral view, the structure balance must be considered when the head is aligned to the ear lobe, the shoulders over the extremity of the acromion, the thoracic region of the anterior column to the vertebral bodies, the transversal lumbar to the vertebral bodies, the pelvis horizontally leveled, the hip with a light posteriorisation of the axis of the hip's articulation, in the bigger trochanter, the knees in extension stay lightly posterior to the patella and the ankle superficially anterior to the lateral malleolus.

In the anterior view, the segments don't align in these patterns, the head stays extended and levelled without flexing or extending too much, characterizing a neutral position, the shoulders levelled without elevating or lowering them, the sternum centered in the body midline, the hip in balance with the anterior superior iliac spines (ASIS), lower members lightly spaced, knees turning forwards together with the ankles in a normal arc from the feet that will be with the toes discreetly turning sideways.

So, happens with the posterior, which differs from the previous only in three aspects, the spinous processes of the vertebras must be centered in the midline, the hip level that will be horizontal to the iliac spine posterossuperior (ISPS) and the bones of the ankles, calcaneus, aligned.

If in any of these positions the segment alters, they generate significant alterations in the person, being them: the head and the anterior and posterior pelvis in the midline, the knees in valgus, varus, recurved and flexed, flat foot, cavus and deviations of the spine, such as scoliosis.

The bad posture or incorrect postural habits lead to a structural compromise being able to, in serious cases, generate deformities and esthetic complications harmful to health. This fact may be related to the sedentary lifestyle and/or non-adequate positions in the time of performing and activity for a reasonable period.

The causes of the bad posture are considered multifactorial, being able to be structural problems (neuropathic, metabolic, etc), idiopathic/functional nature (manner of sitting, compensatory overload, and others), congenital malformations (hemivertebra, cast vertebras, etc), acquired deformities (fractures, traumatism, etc), neuromuscular (consequences of neurological diseases, cerebral palsy) and degenerative, these classifications are important for the prognosis, evolution, retardation and mainly its treatment.

The most adequate posture is when it is possible to preserve the natural alignment of the vertebras in a way that the individual doesn't feel any discomfort being stable or in movement.

The P.E. teacher should orientate and give understanding to the student about the importance of keeping an adequate posture in its quotidian to avoid a possible shortening and excessive stretching of some musculature, analyzing the kid's whole corporal segment.

Postural Problems

Are affected by many extrinsic or intrinsic factors, caused by the weakness or stiffness of a muscle group, bringing contractures in the muscles, fascias, tendons, capsules and even bone deformities generated by compression, rotation and traction in these soft parts.

Per Matos (2014, p. 19) if the body is a group of balanced segments, dependent on each other, if one of the parts moves from its original position, the others will adapt to compensate this alteration.

The rectification of the column is also an important factor to the analysis of the postural alterations, because the nonemergence or loss of a curve in one of the segments of the spine will modify the center of gravity of the body and raise the overload in a specific point of the column, because of the loss of the charges dissipation (MATOS, 2014, p. 45).

Just as the scapular and pelvic hips should always be in balance, because, they affect straightly the spine, making it a segment in closed chain, the variation of the movements made by it when its fixed points are not aligned affect many structures, from the head to the position of the feet.

Head and Neck

It's generally caused by a misalignment of the spine and/or hip, obligating the individual to re-organize to don't lose the gravitational line, keeping the look to the horizon, in a linear fashion to its anatomic group.

The decline, according to Neumann (2011, p. 402), is a lateral misalignment of the vertebras which interleague the head to the neck. The protraction (p. 404) is the anteriorization of the head accentuating the seventh cervical vertebra, forcing this way the stabilizing musculature. And the retraction (p. 338) is the head recoil destructuring the musculature comprising the vertebras.

Shoulder

The weakened and/or decompensated muscles generate many alterations in the position of the articulation, besides it being the one that moves the most in our body in any plan and axis it is also very complex. Neumann (2011) describes the three main deviations of this structure.

The first is the excessive rotation (p. 144) which causes a disorder in all the set from ligaments, tendons, muscles and even bones, independently of being internal where alters the movement mechanism of small round, for example, as external interfering in the infraspinatus, contracting it.

The second is the protraction (p. 134) that alters the musculature of the subscapular, turning the shoulders forward, in shape of closure, moving away the scapula from its origin. The retraction (p. 134) is the opposite, which means, when the posterior musculature is stronger than the antagonist (anterior).

Spine

When misaligned it generates big problems that end up in altering all other segments. The dorsal hyper kyphosis is the most common deviation in the puberty phase or in diseases that causa muscular loss, shortening of the muscles of the anterior chain and/or the antigravitational, stretching too much the posterior chain, debilitating other muscular groups, such as the paravertebral and abdominal, can generate permanent bone deformities. The thoracic region can suffer alterations both in scoliosis (lateral deviation) and in hyper kyphosis.

According to Vanícola and Guida (2014, p. 109), the thoracic hyper kyphosis is asymptomatic and doesn't show alterations in the vertebras, making the diagnosis more difficult, is associated many times with Scheuermann's disease, but also can be congenital, postural, neuromuscular, myelomeningocele, traumatic, post-surgical, skeletal dysplasias, diseases in collagen and tumors.

This curvature can be accentuated by the increase of pelvic obliquity or by the extension of the upper body posteriorly to the gravity line. This position brings in a direct way the unbalance of the whole body, indifferently to the position standing or sitting, by the fact of moving the action of the gravity over the column concave point, pressing the interspicious apophyses and decreasing the posterior spaces of the vertebral bodies (MATOS, 2014, p. 40).

The lordosis is the normal curvature of the column which derives the cervical hyper lordosis which, according to Matos (2014, p. 36), Vanícola and Guida (2014, p. 145), is the retraction of this curvature projecting the head forwards in extension passing the shoulders line.

The hyper lordosis, defined by Matos (2014, p. 39), Vanícola and Guida (2014, p. 145) is the excessive increase, affecting the muscle which is linked directly to the breath, the diaphragm, shortening it, generating a difficulty in the air passage.

The rectification for Matos (2014, p. 45) is when the natural curvatures of the spine are lost, in any of the vertebras, being more common in the cervical. The scoliosis, having as references the author Matos (2014, p. 41), Vanicola and Guida (2014, p. 167), shows many factors that result in the appearance of it and can affect any person independently of age, sex, gender and social class. Its definition is the lateral rotation of the vertebras, generating an inclination in the spine and contractures in extension of the upper body musculatures (musculoskeletal stiffness).

In the vision of Neumann (2011), the equine tail

Is a set of peripheral nerves soaked in cerebrospinal liquids and located inside the lumbosacral vertebral canal. The fracture or severe trauma in the lumbosacral region can damage the equine tail, but preserve the spinal cord. The damage to the equine tail may result in muscle paralysis and atrophy, sensitive alteration, reflex decrease (NEUMANN, 2011, p. 326).

According to Neumann (2011, p. 360) sacroiliac articulation is a degenerative alteration and commonly unpainful, the ligaments which stabilize are the interosseous, iliolumbar, sacrotuberal and sacro-spinal, having as one of the fixating musculatures the maximum gluteus and the latissimus dorsi. "The sacroiliac articulations perform two functions: (1) stress relieve mechanism inside the pelvic ring and (2) a stable way to transfer the charge between the axial skeleton and lower members" (NEUMANN, 2011, p. 363).

There is also an alteration that happens more in elder people because of the action of the gravity that acts on them, generating a progressive degeneration in the bones, osteoporosis, which alters the bone structure, having as consequences the posture of the curved osteoporotic back which ahead of Matos's (2014, p. 39) conception is the most arched position in the thoracic part and favoring the propensity of fractures.

Hip/Pelvis

The position of the pelvis is of extreme importance to the correct postural alignment, as it is in the middle of the segment and for being one of the balance points for the corporal segment's asymmetry, it should be neutral where ASIS and ISPS are in the same level in a horizontal plan and the ASIS along with the pubic symphysis are in the vertical plan, if not it results in generating alterations both in the superior and inferior part of the person.

Per Neumann (2011, p. 471) the anther version is the raise of the lumbar curvature being projected forward and committing the muscles: iliopsoas, erector of the spine, rectus femoris, rotating the sacrum and the iliac bones, the inverse of this deviation is the retroversion which is when there's a decrease of the curvature making a lumbar rectification, altering the abdominal rectum, external oblique, hamstrings, and major gluteus.

Knee

They are usually linked to hip deviations, for being positioned in the lower members, causing a feet unbalance, specifically the plantar arches.

According to Neumann (2011, p. 523), Vanícola and Guida (2014, p. 217) the valgus genus that is known as knee in "x" for having its medial angulations outside of the longitudinal axis, genus varus, famous "cowboy", is when the musculature of the thigh is exerting a bigger function than it should, projecting the knees laterally to the body's midline.

To Cargnin and Mazzitelli (2003, p. 37) the genus flexus is when the knees are in a flexed position, in other words, semi flexionated having a shortage in the posterior chain making impossible a complete extension.

The recurved genus, mentioned by Neumann (2011, p. 555) is when the articulation is in hyper extension, making the posterior musculature to be in maximal extension, giving an excessive compression in the patella, altering the functionality of the quadriceps and of the thigh's posterior musculature.

Foot

When there is an alteration by increase or absence of the plantar longitudinal or transversal arches, ends in compromising the impact absorption, diminishing the mobility and functionality (distributions of charges).

The flat foot, according to the authors Vanícola and Guida (2014, p. 227), is the decrease of the arch generating a medial rotation that can be acquired or congenital.

Neumann (2011, p. 595) talks about the pes cavus which has the longitudinal medial arch higher favoring the inadequate pressures in the heel and in the metatarsus affecting the posterior tibial and long fibular muscles.

According to the authors Vanicola and Guida (2014, p. 232), the supinated foot is linked to the genus varus knee and has the lateral collapse of the transverse arch making a varus in the tendon of the heel. The pronated foot (valgus) is the inverse, being the fall of the medial from the transversal arch.

The author Neumann (2011, p. 615) classifies that when there is a lesion in the tibial nerve paralyzing the supinating muscles, it's about the heelvalgus foot which makes impossible the performance of the dorsiflexion and eversion, limits the anterior talofibular ligaments and the subtalar articulation capsule.

According to Cargnin and Mazzitelli (2011, p. 35) together with Neumann (2011, p. 615) the equine foot usually has its cause by some genetic dysfunction, such as the cerebral palsy, which triggers problems in the knees' articulations, in gait (balance and proprioception) causing a plantar cavus.

The deviation of the equine varus foot, according to Neumann (2011, p. 615), is hereditary and should be treated immediately, because it can lead to other numerous postural and articular problems.

Performing specific exercises and physical activities in the correct posture leads to a considerable improvement of the body alignment, in a long-term. "So, it is essential that the Physical Education teacher understands which are the most common causes of the postural alteration and can stablish practical interventions to minimize this problem in the population" (VANÍCOLA; GUIDA, 2014, p. 61).

Posture Corrective Exercises

The "normal" considered posture has its standards characterized by its anatomic curvatures, when there are noncongenital alterations, acquired with time, they are reversed through physical exercises and stretching, when they are pathological they have a significant improvement, softening and giving an improvement in the pain chart of the student (pains or muscular discomforts in some activities, tensions, shoulders and/or asymmetric hips, and others).

The corporal posture has always been pertinent to the Physical Education, both in the formal teaching and in the physical activities performed in gyms and clubs. In Brazil, the National Curricular Parameters, which represent the guidelines to the basic teaching, stablish that good postural habits and efficient corporal attitudes must be taught in regular Physical Education classes for the primary and secondary education (Brazil, 1997) as integrant part of knowledge over the body (VANICOLA; GUIDA, 2014, p. 63).

The physical exercises improve the postural deviations, being necessary to have attention by the time of their prescriptions, looking for always understanding each time better what are the resourcefulness of the physiological curvatures of the spine since general aspects, anatomic to the growth and development of it to understand which are the limits that person must perform what is being asked so that there isn't an intensification of these standards.

For this reason, these exercises as fundamental tools of help in the correction of these deviations, have bigger importance when the cause is idiopathic, because it is generally by bad postural habits, where in the time of performing it won't be allowed to be "sloppy", always reminding the students to align all their segments before, during and after the demanded activities.

It is worth remarking that the curvature angles considered normal, are when there aren't symptoms of pain allowing the performance of all daily and quotidian activities, living in a healthy way.

The postural treatment does not restrict itself to the gym or the clinic. Besides the applied therapy, the professional should stick to the ergonomic orientations and the quotidian physical activities. Must orientate the patient about his/hers professional or scholar posture, because it is meaningless to perform forty minutes of exercises if the patient stays, in the other hours of the day, in incorrect position or attitude, favoring the maintenance or raise of the alteration (MATOS, 2014, p. 43).

The objective of the posture corrective exercises is to minimize the pain chart giving a body conscience to the student to know where each segment should be in order to have a physiologic balance, strengthening the musculature which holds the body, restructuration of the organism's natural function and in contrast the corporal aesthetic improvement, remembering to orientate that student to always pay attention to the correction so that he can autocorrect himself in his daily life and mainly at home, where he spends most of his time.

Application of the Corrective Exercises

There are three ways to perform the dynamics, static and the isometric to correct and promote self-knowledge of the corporal segments.

These exercises can be performed with or without material resources, only with the body's gravitational strength before the weakened musculature, easing this way the implementation of them in the school environment, being capable of being performed at home under orientation from the teacher that prescribed them.

In order of having efficacy in the execution there must paid attention to four fundamental phases: the consciousness, perception of the alterations/disharmony, correction and corporal consensus with help from breathing, because it is primordial to facilitate and/or unlock some musculatures the make impossible or limit the extension of a muscular group and the adaption of a new posture is the daily life, without extreme compensations, looking always for preserving the curvatures and this new position.

Proposal for School

The implementation proposal of the physical evaluation at schools has as goal to go along the process of teachinglearning of the students focusing mainly the muscular correction and rehabilitation minimizing the triggering of postural deviations with the purpose of identifying the possible alterations of the locomotor apparatus, skeletal muscle, in an early way to have a better efficacy of the corrective exercises.

According to Matos (2014, p. 45), Vanícola and Guida (2014, p. 252) it is performed in six steps, being the first of them the identification of the student, the second is the clinical diagnosis, to know if the kid has any pathological dysfunction (it will be asked to their parents) and the third the physiotherapeutic/functional diagnosis, the fourth is the anamneses, the fifth the physical exam which includes the inspection, tests and perimetry of the members and to finish there are the complementary exams, not being mandatory, seem that it is a school environment.

Evaluate all these aspects tends to monitor the growth of the children to this way treat early and with efficacy any deviation that may appear or anomaly, because all aspects of the growth are evaluated. For this reason, it is of great relevance their presence in schools, where many professionals happen to forget or don't see some of the deviations notable in determined activities in his class.

The schools that don't have monetary conditions to apply the evaluations with specific material can use other means, such as making in a piece of paperboard the measures of a tape measure to check the height, being able to be glued to the wall facilitating the result, also being possible to use the line of the room or any other straight line to test the balance between other solutions.

Conclusion

The objective of this work was to extol the importance of having a good posture, independently of the factors that affect, where through corrective exercises it is noted a significant improve both in the pain chart and in the prevention of the deviations, mainly in the development of the kid giving a corporal conscience more effective and self-knowledge.

It was suggested the application of physical evaluations in the P.E. school classes, aiming to analyze previously the deviations in order of finding and/or emphasize these alterations, observing the possible gains that the students achieved during the school year.

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THE IMPORTANCE OF EXERCISES IN REMEDIAL CLASSES OF PHYSICAL EDUCATION. ABSTRACT

The ideal posture is one that respects the anatomical curvatures of the spine, pelvis and shoulder girdle, giving balance and support for the individual, which should not only aim at aesthetics, but the decrease in extra load on the body segments giving functionality to the body. physical education teachers should guide their students to have the correct posture not only in time to perform a determined activity, but in their day to day, thus minimizing the possible postural problems that bad habit, run compensation and exercises incorrectly bring. This study deals with a bibliographic research with analytical-descriptive, which sought to understand how important and the benefits that corrective exercises have on postural deviations of students from prevention to trigger them and their applicability in schools. He advocated perform a physical assessment, in order to observe the possible gains and student performance through the revaluation at the end of the school year.

Keywords: Posture. Postural deviations. Corrective exercises. PE. Physical assessment.

L'IMPORTANCE DES EXERCICES DANS LES CLASSES DE REDRESSEMENT DE L'ÉDUCATION PHYSIQUE. RÉSUMÉ

La posture idéale est celle qui respecte les courbures anatomiques de la colonne vertébrale, du bassin et de la ceinture scapulaire, donnant l'équilibre et de soutien pour l'individu, qui ne doit pas seulement viser à l'esthétique, mais la

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diminution de la charge supplémentaire sur les segments du corps donnant fonctionnalité au corps . professeurs d'éducation physique devraient guider leurs élèves d'avoir la bonne posture non seulement dans le temps pour effectuer une certaine activité, mais dans leur jour le jour, ce qui minimise les problèmes posturaux possibles cette mauvaise habitude, la rémunération et les exercices mal exécutés apporter. Cette étude porte sur une recherche bibliographique avec analytique descriptive, qui a cherché à comprendre l'importance et les avantages que les exercices correctives ont sur les déviations posturales des élèves de la prévention à eux et leur applicabilité dans les écoles déclencher. Il a plaidé pour effectuer une évaluation physique afin d'observer les gains possibles et le rendement des élèves par le biais de la réévaluation à la fin de l'année scolaire.

Mots - clés: Posture. déviations posturales. exercices correctives. Éducation physique. Évaluation physique.

LA IMPORTANCIA DE EJERCICIOS EN LAS CLASES DE REFUERZO DE LA EDUCACIÓN FÍSICA. RESUMEN

La postura ideal es aquel que respeta las curvaturas anatómicas de la columna vertebral, la pelvis y la cintura escapular, dando equilibrio y apoyo para el individuo, que no sólo debe aspirar a la estética, pero la disminución de la carga extra en los segmentos corporales que dan funcionalidad al cuerpo. profesores de educación física deben guiar a sus estudiantes a tener la postura correcta, no sólo en el momento de realizar una determinada actividad, pero en su día a día, minimizando así los posibles problemas de postura que el hábito malo, compensación y los ejercicios se realiza incorrectamente llevar. Este estudio trata de una investigación bibliográfica con analítico-descriptivo, que buscó comprender la importancia y los beneficios que tienen los ejercicios correctivos en las desviaciones posturales de los estudiantes de la prevención a activarlos y su aplicabilidad en las escuelas. Abogó por realizar una evaluación física con el fin de observar las posibles ganancias y rendimiento de los estudiantes a través de la revalorización al final del año escolar.

Palabras - clave: Postura. desviaciones posturales. ejercicios correctivos. Educación Física. Evaluación física.

A IMPORTÂNCIA DOS EXERCÍCIOS CORRETIVOS NAS AULAS DE EDUCAÇÃO FÍSICA. RESUMO

A postura ideal é aquela que respeita as curvaturas anatômicas da coluna vertebral, cintura pélvica e escapular, dando equilíbrio e sustentação para o indivíduo, o qual não deve apenas visar à estética e sim a diminuição da carga extra sobre os segmentos corporais dando funcionalidade ao corpo. Os professores de educação física devem orientar seus alunos a terem a postura correta não só na hora de executar uma determinada atividade, mas no seu dia a dia, minimizando assim os possíveis problemas posturais que o mau hábito, compensações e exercícios executados de maneira incorreta trazem. Este estudo tratase de uma pesquisa bibliográfica com caráter analítico-descritivo, onde buscou compreender qual a importância e os benefícios que os exercícios corretivos têm sobre os desvios posturais dos alunos desde a prevenção ao desencadeamento dos mesmos e sua aplicabilidade no âmbito escolar. Preconizou realizar uma avaliação física, a fim de observar os possíveis ganhos e desempenho do aluno através da reavaliação ao final do ano letivo.

Palavras - Chaves: Postura. Desvios Posturais. Exercícios Corretivos. Educação Física. Avaliação Física.