39 - STRETCHING: ONE HEALTHY PRACTICE - STUDY OF ITS INFLUENCE ON THE FLEXIBILITY

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SUMMARY
This study brings for the debate the relations among physical aptitude, quality of life and public health, when dimensioning the epidemiologist aspects of flexibility. In this direction we focused our study subject concerning the regular physical exercise under the physical perspective. First we have done a literature review on the possible benefits stretching, as a modifier instrument of the flexibility physical capacity in its aspects. The main aim of this research was to analyze the effectiveness of a stretching physical exercise program, on the joint mobility, through the use of Active the Static method and Static Liabilities. The sample was composed of 16 women, between 22 and 30 years of age who join the "Alongamento: uma prática saudável" course three times a week, 60-minute session. The tests had included shoulders, trunk, hip and knees flex movements. The data collected had two phases the initial and final with an interval of ten weeks, and we have worked with descriptive statistics and the resultes have shown a quantitative improvement in flexibility. We can consider that this corporal practice has presented positive results when applied in a ten weeks period, resulting in an joint amplitude increase.

Key Words: Stretching, Flexibility, Life Quality.

INTRODUCTION
Factors related to daily life activities as sedentarism and work stress, have been subjects that defy public health regarding to the populations’ good quality of life, the benefits of regular physical exercises practice can help in biological, physique and social factors.

According to Ramos and Tojal (2006), the benefits of one exercise stretching program can be observed in some aspects: the improvement in the corporal position muscle, relaxation of stress, corporeal aptitude, pain muscle relief, prevention or reduction of injures risks and development of corporeal conscience. In regarding to public health for attainment of quality of life, this corporal practice that uses stretching physical exercises are found in literature, as a tool in prevention and also therapeutic actions against flexibility degenerative epidemiologist aspects.

Studies demonstrate that some variables interner in this motor capacity, as sex, ethnic, social economic conditions, corporal composition, level of physical activity and age. Exógenos and endogenous factors can influence this element of physical aptitude during the life, that will affect in its level decrease.

Mcardle (2003) points that reduced levels of this physical capacity compromise the development of the others, harming the movements efficiency, potencializes the increase of the risk of injuries and makes it difficult to execute daily life activities, leading to the dependence through the loss of the autonomy.

Taylor (1990), still considers that the levels of the physical aptitude, like resistance, force, speed and flexibility, functional potentiality and the participation in physical activities decline significantly with aging. The organism functional levels are resultant and dependent of the biological aging process and physical inactivity which affects the performance of the components of the motor capacities.

According to Dantas (1999), flexibility is an important component of physical aptitude related to health, and responsible for the movement execution, maximum angular amplitude for the joints, inside the morphologic limits with risk to provoke injury.

Francisco (1996), considers flexibility as essential element in the morfo-functionality of the human locomotive, which determines the amplitude of movement limit. The decurrent alterations of aging linked to sedentarism interferes in the locomotor system damaging nucel, joints, and ligaments systems afecting corporal posture.

In this direction, Mcardle (2003) tells that the maintenance of a physiological function and a improvement in physical aptitude include the accomplishment of stretching exercises, so that significant modifications are felt mainly in flexibility, when establising adequate levels of amplitude of movement in order to prevent or to minimize posturais alterations and chronic degenerative illnesses of the locomotive system components.

This author also agrees that functional capacity and good global health are influenced by illnesses prevention and linked physical activity, which involves the "aerobic or cardiovascular aptitude, corporal composition, abdominal muscles endurance and the region lombossacra and thigh posterior muscle flexibility" (MCARDLE, p.895, 2003).

In accordance with Pollock et al and Dantas (1999) flexibility is resultant of the corporal elasticity of determined joints, the muscles, tendon and ligament adaptation and plasticity.

Theodoro (2004), previously explains that the restriction in the development of flexibility this associated to the elastic properties of the mentioned structures, but also it is dependent of external organims conditions, as time, muscle temperature, environment temperature and fatigue degree.

The limitation of this element of the physical aptitude is a result of hardend muscles and ligaments which interner excessively in the execution of movements simple, but essential for individual motor independence. The the autonomy maintenance is essential for the accomplishment of the daily tasks, which are interrelated with the diverse factors that make quality of life.

Literature considers to obtain higher levels of flexibility there is the necessity of using stretching stimulations, that are requests to increase muscles and other structures of the locomotive system extensibility, which is kept by a determined time.

For Souza (1998), stretching is based on the principle of spindles muscular and tendinosos agencies of golgi activation, which are sensible to the alterations in the length, speed and in muscle tension. The impulses of these receivers provoke reflected answers, that induce musctolentíneas adaptations, which bring profots to joints mobility. There are basic stretching techniques, which include: static, ballistic, passive, active and neuromuscular proprioceptiva facilitation (FNP).

For this research we used the active static and passive static methods: Active stretching is characterized for the voluntary use of the muscles without external aids. Passive stretching is the method that does not need the voluntary contraction, but depends on external forces, through a friend or an equipment (SOUZA 1998).

METHODOLOGY
We have used in this reaserch students, employees and Unicamp´s community, registered in the 2nd semester of 2006 in the course "ALONGAMENTO: UMA PRÁTICA SAUDÁVEL" at Unicamp´s campus. The sample was composed by an experimental
group of 16 women, from 22 to 30 years of age. The work was characterized for the practical the stretching method, with approach on the methods: active static and passive static liabilities (ACHOUR JUNIOR, 2002). The stretching program was realized three times a week, with 60 minutes duration each session, in a ten weeks period.

As methodology we have opted to action research. According to Thiollent apud Theodoro (2004), the action research is a "study based on associative experience in which the action characteristic is a collective problem in which the participants and the researchers are involved in cooperative way" (p.56).

The research and the term of free and clarified assent had been approved by the Committee of Ethics of the FCM-UNICAMP, under n 348/2006. The individuals had had knowledge on the research goals, the form of fulfilling the questionnaires and the accomplishment of exercises and they agreed in participating as volunteers in the scientific study.

This study followed these evaluations: anamnese; physical evaluation of flexibility at two distinct moments: a diagnostic examination of flexibility in the beginning of the course and another after ten weeks of work.

To analyze the degree of flexibility of the individuals, we use the Flexímetro developed for the CARCI, instrument that determines in degrees, the amplitude level of the joint movement. The evaluation used the following movements: shoulders, trunk; hip, and knees flex movements. The analysis of the data was done statistically, and there was the comparison of the results obtained from the beginning of the course in August 2006 and after in October 2006.

RESULTS
The sample was composed by 16 female individuals, from 22 to 30 years old. Of the 16 interviewed we analyzed that, 62% have already practice physical exercises at least six months before starting the stretching classes, and 32% of the people did not carry any physical exercise.

We could observe that in the shoulder flex movement, the right side presented the values of 154,22 (±13,89) degrees before the flexibility program and after 156,87 (±12,28) degrees. In the left side, we verified the value of 156,66 (±16,04) degrees in the first evaluation, and in the second evaluation the value of 160,22 (±13,14) degrees.

In the trunk flex movement, we observed in the initial evaluation the value of 89,44 (±19,96) degrees, and in the end 93,66 (±12,51) degrees.

The hip flex movement for the right side, the individuals had presented 102,11 (±6,52) degrees in the initial test, and the final test 109,77 (±6,51) degrees. And in the left side 108,33 (±11,47) degrees in the evaluation initiates and in the final 112,77 (±7,32) degrees.

In the knee joint, we have found values of 115,44 (±9,90) degrees in the first test, and after 116,66 (±6,38) degrees for the right side. In the left side it was of 119,44 (±8,83) degrees at the first moment and 122,55 (±8,53) degrees in the end.

DISCUSSION
The criteria of choice of these joints as study object was based on its great importance or the functional capacity performance which interferes on the daily activity, as an example of the influence of the hip joint on the locomotion (MCARDLE, 2003). Moraes (2003), also considers that the pelve and trunk mobility are necessary for the accomplishment of countless activities of the daily life and of the work, and they promote mechanical advantage for the function and lumbar efficiency.

The present study suggests that the stretching training makes positive adaptation in flexibility; we observed that all joints had an improvement after ten weeks training, we have found significant results in the hip joint, These data found was described in the literature which in a short period of training is possible to find adaptations in the muscle system. (ALTER, 2001).

FINAL CONSIDERATIONS
This work revealed as a valuable instrument in profits attainment of joint mobility through stretching exercises promoting flexibility increase. Indirectly it also echo in health helping performance in daily activities diminishing risk factors through a preventive and therapeutic acting as mechanism of intervention in stress situations and alterations related to bad corporal position.

This corporal technique allows compensation of structures used in surplus in some situations of effort, however is impossible to reach great results in the flexibility without that it has interdependence of other factors that determine the physical adaptation as, respiratory and postural conscience that leads to a change of habits and improvement of the quality of life.

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