INTRODUCTION

The last decades had been marked by important transformations and advances in the knowledge area. Subjects that long time ago were unquestioned, today are studied with the had scientific severity. In this environment of the practical esporting, where diverse effect are waited with the training of different forms of exercises, the delayed muscle pain, strongly present in the routine of the athletes and eventual practitioners, it occupies a place of prominence in the cast study of this problems on this area. Strategies that can come to minimize and/or to prevent the appearance of this bad effect starting objective theoretician of interest for new research. According to Vries (1968), the stretching can significantly reduce the electric activity of the muscle to bring symptomatic relief of the muscle suffering. The use of the exercises of muscle stretching to reduce the delayed muscle pain. Although, exist a certain discordance about it, what it justifies this research about the effects that it will be important to be investigated and disponibilized to the professionals of the area. In this study, we will approach colon controversa topics of the Physical Education: The delayed muscle pain and the muscle stretching, as well as the other benefits of the exercises of muscle stretching. This direct research has the objective to verify the effect of the use of the muscle stretching before and the intense to reduce the delayed muscle pain. The research is delimited to a sample students from basic schools and average education with approximated 16 years affected for delayed muscular pain presented tests after neuromuscles tests in Physical Education classes.

The Delayed muscle pain

The delayed muscle pain is known for the practitioners of physical activities. Also treated for Alter (1999), by muscle, manifest suffering as a pain or bother that persist on approximately seven days. The mechanisms that involve the delayed muscle pain or muscle suffering are complex and contradictory. Studies on the subject still are made in everybody to be able to get the answers on the true causes of the muscle suffering. The intensity of the exercises seems to be more directly on to the appearance of the pain and his duration. The eccentric contractions also have presented great relevance in the appearance of pain. During the eccentric contractions, the amount of developed force is approximately, two times superior to the force developed during isometric contractions; however, the total number of crossed bridges active is only 10% greater, resulting in a tension raised in the muscular structure and an exercise of high intensity. Some invasive tests had also been facts, where they had evidenced the substance presence in the blood as, for example, the creatina cinase (CK), that it is a pointer of training overload (BALNAVE and THOMPSON, 1993).

Etiology of delayed muscular pain

As mentioned previously, the causes of the sprouting the delayed muscle pain still do not seem to be clear, however, Alter (1999), presents five hypotheses to explain the sprouting of the muscle suffering of the delayed effect. Muscle damaged or breached, fabric conjunctive damaged, accumulation of metabolic, acid latic and located problems of motor units. Some examinations biochemists have been used to survey these injuries. The creatina cinase (CK), is an enzyme that has been studied in the last years with the great tenacity. Its appearance in great ratios in the sanguineous chain can mean an strange state, being an indicative of muscle injury. However, the CK does not seem to be proportional to the sprouting of the delayed muscle pain (NEWHAM, 1988). Another possible cause of metabolic the muscular suffering is the accumulation of other muscle ones. These metabolic ones would attract H2O (water), what it would cause edemas and pressure on the sensorial nerves causing pains, however, exist some problems with this hypothesis: The muscle suffering is generally, greater after eccentric contractions, however, some research had evidenced greater elektromiografic activity during the concentrical contractions and this seems to demystify a little this affirmation (ALTER, 1999).

The idea of the acid latic to be the causer of the delayed pain is one of the oldest and also one of the most questioned in the current days. Some research has demonstrated that the acid latic does not remain during some time in the place. However, the delayed muscle pain appears 24-hour after the intense effort. Beyond the muscle, some phisiologist believe that the fabric conjunctive also can be become damaged. The hidroxiprolina (HPO) perhaps is associated with the delayed pain (ABRAHAM, 1979). The HPO is a marker of a product of interruption of the fabric conjunctive and a pointer of the metabolism of the colágeno. Preventing pains, Alter (1999), tells that if it knows on muscle physiology, tends to support the idea of the execution of stretchings, heating and cooling with the purpose to prevent and/or to prevent pains after-I strengthen, corroborating with the objective of this research.

Muscle stretching

According to Dantas, the muscle exercises of stretching aim at the maintenance the levels of flexibilidade long ago gotten and the movements must be carried through in normal amplitude and with some restrictions. For the related author, three types of muscle stretching exist: stretching, suspension and acquittal. The stretching is as allonge. The allonge in suspension is as the proper name says, to be suspended, and has as example the suspension in the fixed bar. In this type of allonge it does not have movement to articulate, but a small traction for account of the gravitational force. The third type, that is of the acquittal, is an excellent relaxing and consists of balancing the members with a light traction. According to Dantas (2005), these exercises durate eight seconds.

Some authors, point diverse indications of the exercises of muscle stretching. According to Anderson (1998), during many years, it he could observe some rewarding benefits and results. Research indicates exercises of muscle stretching to be carried through inside of the automobile to reduce ailments complaints told by 75% of the interviewed taxi drivers. According to Hall and Brody (2001), these exercises reduce the expense of global energy, diminish the possibility to exceed the tecidual extensibility and diminish the possibility to cause pain. According to Sobieraysky (2004), the stretching promotes the reduction of the muscular tensions and preventing injuries. Alsen (1999), corroborates with this affirmative one when it points that, among others advantages, the exercises of static stretching contribute to relief of muscle pains. In view of as many recommendations, it fits to stand out that the exercises of muscle stretching are indicated in many routines of labor gymnastics with great pointed benefits (BITTENCOURT, 2006; BRITO 2006; QUINTANILHA, 1999).
Benefits of the stretching
According to Anderson (1998), the stretching diminishes the muscle tension, improves the sanguine circulation, reduces the anxiety, improves the mental promptitude, diminishes the risk of injuries, facilitates its work, develops the corporal conscience, sensation of pleasure.

Anderson published some books, however, the benefits pointed for it seems to be being overestimated. An example of this is the affirmation of that the stretching exercises could acutely improve the sanguine circulation. According to Rubini (2005), it does not have scientific evidences for such affirmation.

By the way, it seems that the stretching exercises could until obstructing a little the ticket of the blood. Regarding the improvement of the mental promptitude and prevention of injuries, also scientific evidences do not exist that they corroborate with the affirmation of Anderson. How it could improve such promptitude? In the reality, the muscle stretching and its benefits still have much that to be studied and to be searched científicamente. In short, the benefit of the stretching is probably the less contested, to relax the body. The controversy about prevent this injuries and the delayed muscle pain is very old and she is argued in the present time. Herbert and Gabriel (2002), after Conclude research of literature revision, that such exercises of stretching could not brighten up “pains of the following day”, exactly being carried through before and after the exercises, beyond not preventing injuries and still not to improve the income of the athlete.

MATERIALS AND METHODS
Sample
The group of volunteers was composed for 46 individuals students from schools of the cities of Gonçalo and Itaboraí - Rio De Janeiro. The searched individuals had the average age of aproximated 16 years old, 28 are male and 18 are female. One becomes important to stand out that it did not have election of the students for level of physical activity, neither, for its motor abilities or physical valences.

Materials
The tests had been carried through in square covered in ambient temperature of 30 degrees. 30 long cushions with thickness of two centimeters for accomplishment of the exercises of abdominal flexão had been used. A table of subjective perception of pain (BORG, 2000), together was used to a figure of the human body with the main affected regions, where the individuals pointed the places and the perception of pain according to the agreement number and orientation of the author.

To the left we have a drawing of a body in the previous and posterior vision with delimitations of the regions. To the right, we have the scale of subjective Borg of pain.

To the left we have a drawing of a body in the previous and posterior vision with delimitations of the regions. To the right, we have the scale of subjective Borg of pain.

Figure 3: Flexion and extension of arms
Figure 4: slow leg flexion and abdominal flexion

Fonte: Fleck e Kraemer (1999, p.194)

Methodology of the accomplishment of the tests
First, the group carried through the tests without the application of exercises of muscle stretching. After 30 hours, the individuals had been interviewed with the objective to evaluate the complaints of referring pain to the exercised muscles. The group carried through same the exercises seven days after, being practised exercises of muscle stretching before and after the tests. Procedure as the rest and the application of the interview was become fullfilled the same, using itself it scale of subjective perception of pain of Borg (2000) to verify the intensity of pains told by the proper people.

Statistical treatment to try to demonstrate the possible relevance of the exercises of muscle stretching to reduce the delayed muscle pain, applied the non parametric test of Willcoxon. The test revealed significant (p < 0,05), with p - valor = 0,0006.

RESULTS And DISCUSSÕES
After the interviews with the students, They were made a table where it contained the searched individual, the regions where it revealed pain with and without the execution of stretching exercises and the result in relative numbers to the scale of Borg (pain perception). To leave of these results, the second table was created containing the new results, however, in a simplified form.
variable. We suggest new studies using different populations, with invasive examinations and more minute control of the existing data of invasive origin, for if dealing with daily pay-pubescent and pubescent students the gotten results they had been very articulate (flexibility), and this was not the objective of this research. Despite the limitations of the research, for not launching hand of the execution of the movements. We got great difficulty in finding research less involving executed exercises of allonge being with than fifteen seconds, therefore it seems that the stretching exercises are carried through with the objective of profit in the amplified to when carried through before and the intense exercises. One another point important to be argued is related to the time of duration of concluded. In this research the positive intervention of the exercises of muscle stretching was clear to after brighten up these pains years old when displayed the RML exercises intense.

exercises of muscle stretching can brighten up the delayed muscle pain perceived by students with average age approximately 16 years old when displayed the RML exercises intense.

Despite the great contradictions pointed in the revision of literature, the vast number of research that approaches the subject, and even though they point resulted opposing to the presented ones in this study, we conclude all after the inquiry that the exercises of muscle stretching can brighten up the delayed muscle pain perceived by students with average age approximately 16 years old when displayed the RML exercises intense.

The literature revision is ample and points diverse resulted and this was of extreme relevance so that this research was concluded. In this research the positive intervention of the exercises of muscle stretching was clear to after brighten up these pains when carried through before and the intense exercises. One another point important to be argued is related to the time of duration of the execution of the movements. We got great difficulty in finding research less involving executed exercises of allonge being with than fifteen seconds, therefore it seems that the stretching exercises are carried through with the objective of profit in the amplified to articulate (flexibility), and this was not the objective of this research. Despite the limitations of the research, for not launching hand of data of invasive origin, for if dealing with daily pay-pubescent and pubescent students the gotten results they had been very significant. We suggest new studies using different populations, with invasive examinations and more minute control of the existing variable.

FINAL CONCLUSIONS AND CONSIDERATIONS

Perception about related pains by volunteers with and without the stretching

REFERENCES

ARAÚJO, CLÁUDIO. Flexiteste: um método completo para avaliar a flexibilidade. São Paulo; Manole, 2005.
ABSTRACT
This research had as focus the influence of the exercises of muscle stretching to reduce delayed muscle pain (DMT) when carried through before and tests located muscle resistance (RML). The present study aimed to verify if the exercises of muscle stretching would reduce the muscle suffering noticed by students during the physical education class. The sample is composed by a group of 46 students from schools of the Gonçalo and Itaborai - RIO DE JANEIRO. The volunteers are separated as follow: 28 are male and 18 are female, under the approximated age of 16. The students performed the DML tests of going down exercises, flexion and extension, of elbows and abdomen flexion without the previous and after accomplishment of muscle stretching exercises. A after 30 hours the individuals were interviewed about the intensity of pains and noticed regions. It was used an instrument for evaluation of these pains was composed of a human body picture under a back and front view, with one simply divided on the main regions affected beside the perception schedule subjected to Borg pain. After seven days the same volunteers performed the tests differentiating only the execution of light muscle stretching, concentrated and of short lasting before and after the tests. The procedure of the interview was repeated and then, the data comparison. As statistics analysis, it was used the non parametric willcoxon. The test showed to be significant (p<0,05) with p - value = 0,0006. Conclude, therefore, that the muscle stretching exercises, performed before and after neuromuscular exercises of maximum repetitions reduced the delayed muscle pain perceived by students with average age of 16 years during the physical education classes.

MUSCLE STRETCHING X DELAYED MUSCULAR PAIN: TRUTH OR MYTH?

RESUMEN
Esto estudio tuvieve como su foco la influencia de los ejercicios de elongamiento musculara para disminuir la dolor muscular tardia (DMT) cuando realizados antes y después tests de resistencia muscular localizada (RML). El presente estudio tuvieve como objetivo mirar se los ejercicios de elongamiento pudem disminuir la dolor muscular en las clases de educacion fisica el la escuela. La amuesta es formada por un grupo de 46 alumnos de escuelas de las Ciudades de Sao Goncalo y Itaborai en Rio de Janeiro. De lo 46 alumnos 28 son varones y 18 muchachas con edad de ±16 años. Los alumnos hicieron los testes de RML de sentadillas, flexion y estencion de brazos y abdominales no haceno ejercicios de elongamiento antes y después de los ejercicios. Después de 30 horas los sujetos fuerten entrevistados sobre la intensidad de las dolores y los lugares donde se fueran sentidos. Se utiliza un instrumento para la evaluacion desta dolor que se fue compuesto por una diburo du corpo humano visto antiriormente y posteriormente y una tabla de perception subjetiva de dolor (BORG). Después de 7 dias los mismo alumnos hicieron los testes diferenciados solamente en el ejercicio de los ejercicios de elongamiento leves, concentrados y de corta duracion antes y después de los testes. La anlise estadistica se fue aplicada con el teste de willcoxon. El teste demonstro significatif (p <0,05), com p - valor = 0,0006. El estudio Conclui asi, que los ejercicios de elongamiento realizados antes y despues de ejercicios musculares puede disminuir la dolor retardada en alumnos com edad promedia de 16 años en las clases de educacion fisica.

PALABRAS-CLAVE: Elongamiento, dolor muscular retardada y Resistencia Muscular Localizada.

PALABRAS-CHAVE: Alongamento, dor muscular tardia e Resistência Muscular Localizada.