03 - ALTERATION TO ARTICULATE OF THE SHOULDER HIP AND KNEE IN METHODSACTIVE, PASSIVE AND FNP IN HIDROGINÁSTICA PRACTITIONERS.

LUIS FERNANDO MARTINS OF ARAUJO, MARA L. M. GOMES, ORIENTING
Ms. ANDRE D.O.FERNANDES: M.s CARLOS EDUARDO COSSENZA RODRIGUES

UNIVERSIDADE ESTÁCIO DE SÁ; UNIMATH ,RIO DE JANEIRO, BRAZIL
malug_rj@homail.com - luisaraujoedfisica@hotmail.com

INTRODUCTION

The prescrition of physical exercises that they aim at to promote an amplitude benefit to articulate with approach in the physical valence flexibility, in the sample the necessity of the adequate application of the techniques.

The loss of mobility to articulate can be ratified by low a production of the colageno and or an brusque fall of the sinovial liquid, that to nourish and to lubricate the joints diartoses thus allowing accomplishment of the movement to articulate eutrofic (KAUFFMAN, 2001).

In accordance with Kravitz and Mayo (1997 apud TO SOUND, 2002) the aquatic exercise minimizes stress it involved in the joint gets a bigger amplitude to articulate due to this processo.With the reduction of the hydrostatic weight for the immersion in the half liquid reduces the operating compressivi forces in the limitation to articulate (DANTAS, 2003).

The Importance of flexibility for the aged one is not only limited in benefit of the amplitude to articulate, it directly is related with domestic accidents and degenerative patologes.

It tells to Spirduso (1995 apud STOLEN, 2002) the participation of flexibility as being one of the requisite oitos of exercises that diminish the incidence of falls in this population. The reduction of in agreement mobility the age can propitiates artrite for one high contraction exerted on the components to articulate and adjacent musculatures (VALLEY, 2002).

This research had as objective to verify the variations of the amplitude to articulate acute in the methods of training of flexibility, asset and facilitation to neuromuscular proprioceptiva (PNF) inserted in the lesson of hidroginatic for practitioners of the feminine sex.

LITERATURE REVISION

The aging when causing losses the corporal structures finishes compromising the good functioning of these structures. A reduction of flexibility, which had the increase in sinovial viscosity generating the calcification of the articulate structures, becoming them, but you propitiate the rupture, formation of osteofits and deformation in the surface to articulate. (ACHOUR, 2004).Such compromotimento of the joint limits an amplitude to articulate eutrofic causing this loss of mobility.

"The reduction of the combined muscular mass with the reduction of the rigidity of the related musculotendínea unit to the aging, can take the reduction of the resistance to maximum allonge (ACHOUR, 2004 p. 45)"."An observed muscular Hipotrofia with the age seems to result of the physical inactivity and a gradual and selective deterioration of muscular staple fibres of Type II (fast staple fibres) (SIMÃO, 2004 p.122)".

With the predominance of the aeróbica energy way in basal physical activities, the stimulation of the organism in activity does not supply anaerobico threshold in the sample a deterioration of staple fibres glicolitic and in special of type II B (DANTAS, 2003)

"the individuals as predominance Glicolíticas staple fibre presents a bigger degree of flexibility that the individuals with predominance Oxidativ staple fibre (2003 SILVA, et al. p.166)".

The reduction of the compression to articulate with the half immersed body in the aquatic one relaxes and allows a recovery of that the joints are imposed daily (DANTAS, 2003).

“Taking in consideration this neuromotora variable [...] our Center of study compared the flexibility of women of 50 the 72 years old sedentaries,practicing gymnastic out of the water and practicingof hidroginastic. [...]. Analyzing the values of active and staticflexibility of the extension movement and flexion of the joints of the shoulder, hip and knee, the authors found values significantly superior flexion of shoulder and extension of hip in practise of hidroginastic; and values of flexion of the hip in the gymnastics practitioners out of the water, suggesting, therefore thatthe carried through activities inside of the water associates the best levels of flexibility in some joints. (MATSUDO, 2001 p. 124).”

However studies indicate an oppose position to the findings in posterior research pointing a mobility superiority to articulate in gymnastics practitioners out of the water. (SOARES, 2002).

The knowledge of the method makes it possible them to understand its influences in the inserted training of flexibility in the lesson of hidroginastic for the practitioners, being thus allowed to inquire the ontogenic stimulatons that improve the human motor gesture in its senescency .

With the absence of voluntary contraction to place the corporal pursuing to determine an amplitude to articulate we can thus characterize the technique of the passive allonge.

"Passive it is made with the aid of external forces, in the case, a friend or a person who orientates; being geronte at the moment of the accomplishment of the exercise in muscular descontration (VERDERI, 2004 p.83)".

"... Many authors had demonstrated that bigger incidences of ,more than fifteen seconds provoke significant increments to the level of flexibility (DANTAS, 2003 p. 215)".

"Active is to oppose the previous one is the type of allonge carried through for voluntary contraction of the agonist muscle (FERNANDES, 2002 p.71)".

"The passive method using static positions, was inspired in yoga and is 20% more efficient than the active method (DANTAS, 1989 p. 78)".

"Method of proprioceptiva neuromuscular facilitation (PNF). This method was created with therapeutical purposes by Herman Kabat in 1952; from this method, 3S the method appeared for application in gymnasts, swimmers and dancers (NOVAES, 1998 p.105)".

"It consisted, of three steps: 1º: mobilization of the corporal pursuing until the amplitude limit 2º: accomplishment of a maximum isometric contraction of 8 seconds. 3º: increasing of the movement beyond the original limit, during the relaxation of the athlete after the contraction (DANTAS, 2003 p.216)".

The proprioceptiv performance in this method hapens at distinct moments, during the magnifying of the muscular spindle is set in motion with the isometric contraction finishes the action it spindle and is actived the Tendinoso agency increasing the amplitude to articulate for relaxing the muscle.

Studies demonstrate a better efficiency in method 3 S in comparison with the others methods, after that it comes the passive method with as better resulted and finally it appears the active method.

“This study had as objective to verify which of the methods for the development of dynamic flexibility , static and mixing-3S

flexibility is more efficient, to improve flexibility [...] Has been concluded that a significant result the improvement of flexibility for the methods was gotten highly dynamic, static and compound-3S, however, was observed that the methods static and compound-3S shown resulted similar and more efficient than the dynamic method (for the development of flexibility). The method compound-3S is what presented the best ones resulted, even so the difference is not estatisticy significant (NUNES, 1986p. 80)

3. MATERIALS AND METHODS

This study it is pertaining to the Analytical Empirical paradigm, in the quantificable dimension of the phenomenon, in the experimental strategy.

The sample was limited in feminine sex with etary band between 40 and 74 years old with 53,18 average of ± 10 years, in a total of 16 enclosed participants the group of control and having all the group an arithmetical division of the numbers of participants.Were enclosed in the sample the aged ones that only practised lesson of hidroginastic with at the very least 6 months of activity and a weekly frequency of three times, being all aparently healthyThey were voluntaries and signed assented the study. It excludes - from the sample the aged ones that were making medicine use or which wants resources ergogenic, possessors of a description of the former indicating clutters to osteomioarticular or neurological pathology, had been also excluded who did not adhere to the alimentary recommendations and or practised intense physical exercises, in the 24 hours that had preceded the test.

After the election of the participants , the present study was carried through in 4 stages, during 4 working days of the week in the period of the morning, being the pertaining sample to an academy in Rio de Janeiro of zone west. The individuals that had participated of the test received a protocolled letter with the information from the day schedule and procedures adopted for the experiment, and the basic process that must be respected in the previous day for accomplishment of the test.

Hidroginastic lesson was given to the group, with the duration of 50 minutes, in a swimming pool with depth 1,40m measuring 8mx 4,5m with water in the approached temperature of 29º/31ºC. The lessons consisted of 3 phases, all the pupils replaced liquids before during and after the lesson. 1º moderate heating(walked for 5min); 2º Exercises aerobics (circuit of 3 repetitions with 8 stations and duration of 2 minutes each alternating the superior and inferior members) 3ºRelax (application of the active method with 10 movements of flexion and maximum extension for each involved joint; liabilities 3 repetitions of 15 second of horizontal extension of shoulder, flexion of coxofemural and flexion of femurtibial and PNF used the same 3 repetitions and movements of the liabilities but detaching the application of the technique with isometric contraction of 8 seconds.

The hidroginastic lesson detached as changeable independent and changeable dependent had the alteration of the amplitude to articulate the methods in accordance with the methods and involved joints applied in sample .An alteration of flexibility was demonstrated by the initial mensuration and final of the same one in the joints of the shoulder, knee and hip in three methods active, passive and PNF and still ± counted on a group of control of 4 practitioners of the feminine sex with the etary band of 40 the 70 years with 52 ±12,41 years old.

To verify the average homogeneity of the population were collected the measures of the age, abdominal perimetria corporal density perimetria of the hip, percentage of fat and free mass of fat through perimetria of TRAN and WELTMAN (1989 apud FERNANDES 1999).For the statistical treatment was based through the value of the residues. For the mensuraton of flexibility was adopted Norkin & White (1997).

The perimetria of the protocol of Tran and Weltman (1989).The measure for the present study counted on the following instruments, the stature was surveyed by means of one estadiometer of the Standar mark with capacity for 80 the 220 cm. The corporal weight had its mensuraton made by a digital scale of the Camry mark with precision for 100g and scale of the 150 variation of 0 kg.to the measure of the percentage of fat was used a antropometric ribbon of the Sanny.To mark the measure of flexibility was used a fleximeter of the Sanny mark with capacity for 360°. Techniques of descriptive statistics for characterization of the sample had been applied, for the 0 variable dependent as the test of the hypotheses and determined the significant minimum difference. The angular percentile alterations in the methods and its respective joints for, ANOVA, value of F and level of significance 5%. The characterization of the homogeneity of the sample used the statistical treatment for average, shunting line standard, identification of the residues.

The treatment of Turkey was applied for the presented angular percentile alterations in the different joints and different treatments enclosed the controlled group. A level of significance of 5% for the test of the hypotheses was presented.

4.RESULTS AND DISCREPANCIES

When coming across with the results on the basis of the described statistical data in Table 1 we can identify the average values presented by the sample of 1 39,06% ± 7,3 of fat the corporal density presented a average de 1, 00 ±0,023 and 95±18,46 and 104±15,0 cm of average for the perimetria of abdomen and hip the residual variation were described in the following way not presented form residues in the comparison of the age perimetria of abdomen and hip however we had a residue of 9,7145 for percentile corporal density and -3,6 %para of fat.

Table 1 statistical results of the homogeneity corporal composition of the sample

Sample	Method	Age	Abdomen	Hip	Corporal Density	Percentile Of Fat
Test 01	PNF	46	79	94	1,02115838	33,61929
Test 02	PNF	59	79	95	1,01608373	36,0696
Test 03	PNF	40	96	102	1,01001125	39,03408
Test 04	PNF	45	90	106	1,15856976	-24,5703
Test 05	CONT.	42	86	105	1,01390818	37,12758
Test 06	CONT	74	92	98	1,00770852	40,16758
Test 07	CONT	54	97	98	1,00332427	42,34006
Test 08	CONT	55	95	110	0,99527001	46,38099
Tes t 09	PASS.	70	72	83	1,02885526	29,94896
Test 10	PASS.	40	86	96	1,01736532	35,44848
Test 11	PASS.	58	109	114	0,99314993	47,45555
Test 12	PASS.	59	79	91	1,02463149	31,95628
Test 13	ATIVO	56	91	95	1,01030459	38,89006
Test 14	ATIVO	56	153	152	0,98426387	52,00984
Test 15	ATIVO	40	98	113	0,99848386	44,76074
Test 16	ATIVO	57	115	112	0,9937	47,13175
average		53,1875	95,125	104	1,00256738	39,06812
DESVPAD		10,020	18,46	15,0	0,02389	7,315597
RESIDUE		0	0	0	9,7145	-3,6

With reference in the statistical criteria in the group where it was applied facilitation to neuromuscular proprioceptiva we stand out the description of the values of the average percentile alteration of the angulation of the shoulder, 24 % in comparesition was presented a average of 27, % compared before and after the lesson in the coxofemoral joint and finally the joint of the knee allowed an alteration to articulate average of 1% in the PNF method.

Already the initial data of the angulation of the knee were described for the group control with average percentile alteration of -0,008090 for shoulder -9,9712527 for joint of the hip, and - 12.5% of average alteration in the knee. For the active group the

average percentile alteration of the shoulder was -11,938304% hip -8,1956033 and knee -12,163%, already for percentile the passive group we had alteration -3,6522999 for 6,4327485 shoulder hip and 8.48373% knee.

The angular alteration of the joints was observed and described in Table 2 in this study. A significant increase in the flexibility of the shoulder occurred, and hip in the PNF.However method in the joint of the knee, after the lesson of hidroginastic among the methods the greater percentile average of alteration to articulate was presented by the one of the passive method in such a way enters for not to be superior dsm of the test of Tukey and it shows statisticaly insignificant.

The treatment of Turkey defined the significant minimum difference in 16,9%de alteration measured of the amplitude to articulate, being any value above 7,4> 3,49 is significantly better respectively enters the tested methods in a value of equal F adopting a level of significance of 5% with the number of treatment and the degree of libertation of residue being 3 and 2. What in it makes possible them to reject the null hypothesis through the ANOVA

Table 2 alteration of the angulation of the joints

Sample	Method	Before		After			
		shoulder	hip	knee	shoulder	hip	knee
Test 01	PNF	148	110	110	150	135	100
Test 02	PNF	175	115	115	165	140	125
Test 03	PNF	157	110	120	160	112	115
Test 04	PNF	150	110	115	165	100	110
Test 05	CONT.	115	115	155	98	110	115
Test 06	CONT	110	102	142	113	115	110
Test 07	CONT	100	95	155	100	100	100
Test 08	CONT	95	90	160	110	100	95
Test 09	PASS.	100	100	130	100	90	100
Test 10	PASS.	45	85	145	40	70	45
Test 11	PASS.	105	105	150	95	100	105
Test 12	PASS.	90	100	135	82	90	90
Test 13	ASSET	110	115	160	110	110	110
Test 14	ASSET	110	102	150	110	120	110
Test 15	ASSET	100	95	140	90	120	100
Test 16	ASSET	95	90	160	130	90	95

CONCLUSION

A necessity of the knowledge of the variation invigorates in the situation problem of the study to articulate in the different methods of training of flexibility. According to angular alteration of the joints in relation to the tested methods, demonstrated resultes significant for method PNF having the lesser limiting factor of the alterations to articulate of the shoulder and hip, in the case of the knee accomplishement was achieved by the passive method. The study demonstrated that when comparing applied methods we have resultes inversely satisfactory for the active method being thus a ontogênico stimulaton that did not increase mobility to articulate in the joints of the shoulder, knee and hip in short time the sample .To reveal the situation problem we suggest new study to give continuation to the research in this area.

BIBLIOGRAPHICAL REFERENCE

ACHOUR, A. J. Flexibilidade e alongamento: saúde e bem-estar. 1. ed.São Paulo: Manole, 2004.

ARAUJO, Luis. Efeito agudo na flexibilidade do ombro após uma aula de hidroginástica para gerontes. In XXVII SIMPÓRIO INTERNACIONAL DE CIÊNCIA DI ESPORTE, 2004, São Paulo. Anais São Paulo CELAFISC, 2004 p. 111(apresentado oralmente e aceito para publicação).

DANTAS, Estélio HM - Flexibilidade alongamento e flexionamento. 2. ed. Shape Rio de Janeiro.1989

VALE, R. DANTAS E. H. M G. S.; ARAGÃO J. C. B.;. Fitness & Performance journal: Flexibilidade e Autonomia. Rio de Janeiro: V,02, n1, p23-29.Jan/fev. 2003.

DANTAS, E. H. M.. et al. Perda da flexibilidade no idoso. Fitness & Performance Journal. Rio de Janeiro, v.1 ,n.3, p.12-20, mai/jun. 2002.

DANTAS, E.H.M; OLIVEIRA, R. J. Exercício, maturidade e qualidade de vida. 2.ed. Rio de Janeiro: Shape. 2003.

FERNANDES, A. D. *et al.* Cinesiologia do alongamento. 1.ed. Rio de Janeiro: Sprint. 2002.

FILHO,J.F. A prática da avaliação física. 2. ed. Shape Rio de Janeiro.1999

KAUFFMAN, T. L. Manual de reabilitação geriátrica. Rio de Janeiro: Ed. Guanabara-Koogan, 416 p., 2001.

FURTADO, V; MATSUURA,C.Prevenção de quedas em idoso, Fitness & Performance journal. Rio de Janeiro: v.1 ,n.3, p.39 -15 ,mai/jun. 2002

MATSUDO, S. M. M. Envelhecimento & atividade física. 1. ed. Paraná. editora Midiograf 2001.

MOREIRA, C. A. Atividade física na maturidade. 1.ed. Rio de Janeiro: Shape. 2001.

NOVAES. Jefferson S.; VIANNA. Jéferson M. Personal training e condicionamento físico e academia. 1.ed. Rio de Janeiro. Shape, 1998.

NUNES, Volmar Geraldo da Silva. Estudo da flexibilidade dinâmica, estática e mista (3S) em universitários do sexo masculino. Santa Maria: UFSM, 1986. 80p

SILVA, E. et al, Tipo de fibra e flexibilidade, Fitness & Performance journal. Rio de Janeiro: v.2 ,n.3, p.157-166,mai/jun. 2003.

VERDERI, E. O corpo não tem idade :Educação Física Gerontológica. 1.ed. São Paulo:Ed Fontoura.2004

SIMÃO, R. . Fisiologia e Prescrição de Exercícios para Grupos Especiais. 1. ed. São Paulo: Phorte Editora, 2004. v. 01. 152 p.

SOARES, J. S. OTA, A.H. ; DANTAS, E. H. M. Hidroflexibilidade. Fitness & performance journal. Rio de Janeiro: v.1, n 5, p.37-42,set/out. 2002.

ALTERATION TO ARTICULATE OF THE SHOULDER HIP AND KNEE IN METHODSACTIVE, PASSIVE AND FNP IN HIDROGINÁSTICA PRACTITIONERS.

SUMMARY

The aging process is well-known that we live deeply in this period superior contemporary, indices to other times in the in agreement historia the ministry of the providence and social assistance (MOREIRA, 2001). The prognostic of loss of mobility to articulate of 20 30% between 30 the 70 years is alarming, (et.al DANTAS, 2002). The Importance of flexibility is not only limited in profit of the amplitude to articulate, it this directly related with domestic accidents and degenerative patologias..Entretanto is indispensable to know the alterations to articulate that the training of propitious flexibility. This research had as objective to verify the variations of the amplitude to articulate acute in the methods of training of flexibility, asset and facilitation to neuromuscular proprioceptiva (FNP) inserted in the lesson of hidroginástica for practitioners of the feminine sex with total etária band between 40 and 74 agesNum of 16 enclosed participants the group of control. Had been applied techniques of descriptive statistics for characterization of the sample, and used protocol of Tran and Weltman (1989). For the dependent variable it used ANOVA for the test of the hypotheses and determined the significant minimum difference. The angular percentile alterations in the methods and its respective joints value of F with level of significance 5%. The angular alteration of the joints in relation to the tested methods demonstrated resulted significant for method FNP having the lesser limitante factor of the alterations to articulate of the shoulder and hip, in the case of the knee this paper was played by the passive method. The study it demonstrated that when comparing applied methods we have resulted inversely satisfactory for the active method being thus a ontogênico stimulaton that did not increase mobility to articulate in the joints of the shoulder, knee and hip in short time in the sample. Word-keys:, Methods of Flexibility, Alteration To articulate, idroginástica

EFFET DE LA FORMATION LES MÉTHODES ACTIF, PASSIF ET FNP DANS DES PRATICIENS DE HIDROGINÁSTICA DANS L'ÉPAULE HANCHE ET GENOU DANS

RÉSUMÉ

Est notoire le processus de vieillissement que nous vivons intensément dans cette période contemporain, indices supérieurs à autres temps dans la historia conforme le ministère de la

Providence et assistance sociale (MOREIRA, 2001). Le pronostic de perte de mobilité articuler de 20 à 30% entre 30 à 70 ans est alarmant (DANTAS et.al, 2002). L'Importance de la flexibilité ne se limite pas seulement dans profit de l'amplitude articuler, elle celle-ci directement rapportée avec des accidents domestiques et pathologies dégénératives. Néanmoins c'est indispensable savoir les effets produits par l'action de flexibilité. Cette recherche a eu comme objectif vérifier des variations de l'amplitude articuler aiguës dans les méthodes de formation de la flexibilité actif et facilitation neuromusculaire proprioceptive (FNP) insérée dans la leçon de hydrogynmastique pour praticiens du sexe féminin avec âge entre 40 et 74 ans. Dans un total de 16 participants inclus le groupe de contrôle .Ont été appliquées des techniques de statistique descriptive pour caractérisation de l'échantillon, et utilisé protocole de Tran et de Weltman (1989). Pour la variable dépendante utilise ANOVA dans l'essai des hypothèses et déterminée la différence minime significative. Les modifications de pourcentages angulaires dans les méthodes et dans leurs respectifs joints valeur de F avec niveau d'importance 5%. La modification angulaire des joints concernant les méthodes expérimentées a démontré à résultats significatifs pour la méthode FNP en ayant le moindre facteur limitante les modifications articuler de l'épaule et de la hanche, dans le cas du genou ce rôle a été jouée par la méthode passive. Quand nous comparerons les méthodes nous trouvons des résultats inversement satisfaisants dans la méthode active en étant ainsi la stimulation ontogénétique n'a pas augmenté la mobilité articuler dans l'épaule, le genou et la hanche dans peu de temps d'échantillon. - Palavras-chaves :, méthodes de la flexibilité, modifications articuler ,hydrogynmastique

EFECTO DEL ENTRENAMIENTO EN LOS MÉTODOS ACTIVOS, VOZ PASIVA Y FNP EN MÉDICOS DE HIDROGINÁSTICA EN LA CADERA Y LA RODILLA DEL HOMBRO

RESUMEN

El proceso del envejecimiento es bien sabido que vivimos profundamente en este contemporáneo superior del período, índices a otras veces en historia del acuerdo el ministerio del providence y la ayuda social (MOREIRA, 2001). La pérdida de movilidad a articula de 20 30% entre 30 que los 70 años son alarmantes, (DANTAS, 2002). La importancia de la flexibilidad se limita no solamente en el beneficio de la amplitud para articular, de ella este relacionado directamente con accidentes domésticos y de patologias degenerativos. Si embargo es imprescindible saber las alteraciones para articular que el entrenamiento de la flexibilidad propicia. Esta investigación tenía como el objetivo para verificar las variaciones de la amplitud para articular agudo en los métodos de entrenamiento de la flexibilidad, del activo y de la facilitación al proprioceptiva neuromuscular (FNP) insertado en la ciase de hidrogimnasia para los praticantes del sexo femenino las edades Num 40 y 74 de 16 participantes incluindos el grupo de control .Había sido técnicas aplicadas de la estadística descriptiva para la caracterización de la muestra, y protocolo usado de Tran y de Weltman (1989). Para la variable dependiente utilizo ANOVA para la prueba de las hipótesis y determinó la diferencia mínima significativa. La alteración angular de los empalmes en lo referente a los métodos probados demostró significativo resultante para el método FNP que tenía el poco factor del limitante de las alteraciones a articula del hombro y la cadera, en el caso de la rodilla este papel fue jugada por el método pasivo. El estudio demostró que al comparar métodos aplicados tenemos inverso resultante satisfactorio para el método activo que es así un estimulodel ontogênico al cual no aumentó movilidad articulan en los empalmes del hombro, de la rodilla y de la cadera en tiempo corto en la muestra. - Palabra-llaves:, Métodos de flexibilidad, alteración de articular, Hidroginástica

EFEITO DO TREINAMENTO NOS MÉTODOS ATIVO, PASSIVO E FNP EM PRATICANTES DE HIDROGINÁSTICA NO OMBRO QUADRIL E JOELHO

RESUMO

É notório o processo de envelhecimento que vivenciamos nesse período contemporâneo, índices superiores a outras épocas na historia conforme o ministério da previdência e assistência social (MOREIRA, 2001). O prognóstico de perda de mobilidade articular de 20 a 30% entre 30 a 70 anos é alarmante (DANTAS et.al, 2002).A Importância da flexibilidade não se limita somente em ganho da amplitude articular, ela esta diretamente relacionada com acidentes domésticos e patologias degenerativas. Entretanto é indispensável saber os efeitos gerados pelo treinamento de flexibilidade. Esta pesquisa teve como objetivo verificar variações da amplitude articulares agudas nos métodos de treinamento da flexibilidade, ativo e facilitação neuromuscular proprioceptiva (FNP) inseridos na aula de hidroginástica para praticantes do sexo feminino com faixa etária entre 40 e 74 anos. Num total de 16 participantes incluídos o grupo de controle e tendo todos os grupo uma divisão aritmética dos números de participantes Foram aplicadas técnicas de estatística descritiva para caracterização da amostra, e utilizado protocolo de Tran e Weltman (1989).Para a variável dependente utilizou ANOVA no teste das hipóteses e determinada a diferença mínima significante. As alterações percentuais angulares nos métodos e em suas respectivas articulações valor de F com nível de significância 5%. A alteração angular das articulações em relação aos métodos testados demonstrou resultados significativos para o método FNP tendo o menor fator limitante das alterações articular do ombro e quadril, no caso do joelho este papel foi desempenhado pelo método passivo. Ao compararmos os métodos aplicados temos resultados inversamente satisfatórios no método ativo sendo assim um estímulo ontogênico que não aumentou a mobilidade articular no ombro, joelho e quadril em curto tempo na amostra. - Palavras-chaves:, Métodos de Flexibilidade ,Alteração Articular,