07 - PAIN EVALUATION AND FUNCTIONAL CAPACITY OF PEOPLE DIAGNOSED WITH KNEE OSTEOARTHROSIS THROUGH LEQUESNE ALGOFUNCTIONAL INDEX SCORES

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INTRODUCTION

Osteoarthrosis is a disease with a multifactorial cause, and its mechanisms of occurrence being the use of excessive weight wrongly performed or the change of the cartilage's quality or other such structure. Age is a factor closely related to the emergence of the pathology. Aging leads to an augmentation of body fat, a decrease of muscle, joints and ligaments strength, a decrease in physical aptitude and sometimes osteoporosis, increasing the articular stress. Obesity is yet another characteristic that leads to the increase of articular overloading, mainly when knee joint is concerned. (FRANCO, L. R. et al., 2009)

A knew OA is also known as gonarthosis. This joint is responsible to support a great load and also has great amplitude of movement. When attacked by arthrosis, it usually damages deambulation, as long as making it difficult to perform daily activities (CHAVES, A. C. M.; MARQUES, B. D.; ALVES, C. G. C., 2011).

Treatment is symptomatic, and it aims to provide pain relief, decreasing incapacities, promoting life quality, increasing articular mobility, improving the march and the mitigation of the disease's progression. (FRANCO, L. R. et al, 2009).

Regarding the main approaches, we can cite health education as a an important resource to be shared with the patient regarding their responsibility for their own health and relief of the symptoms themselves. With this resource the patient is taught to cope with the disease and to change their life habits, in order to decrease their incapacities ALVES, V. S. 2005).

MATERIALS AND METHODS

This study is characterized as a quantitative research, using Lequesne Algofunctional Index Scores on patients diagnosed with clinical knee osteoarthosis. The data gathering took place at the Physiotherapy Clinic or UNIVALI, block F5, Health Sciences Center, Campus I, form august 2012 thru june 2013.

Twenty-eight subjects were invited to a personal interview while they waited their turn at the Clinic of Physiotherapy, or shortly after the treatment, most of each was conducted by students enrolled at the Rheumatology course, Monday classes, 8:00 to 12:00. Such interviews explained the research's objective and methodology and in case the patient allowed to take part in them, they were asked to sign an informed consent form. We applied the Lequesne's Algofunctional Index Scores, and also measured the weigh, height and BMI of every subject.

Lequesne's Algofunctional Index Scores was elabotated in France in the 70s, but was first published in the 80s. It went through two updates, the first in 1997 and the last in 2003. It has six questions about pain or discomfort, one about the distance walked on four activities of daily living, totaling eleven issues. The responses to generate a total score can range from 0 to 24, each score is ranked by a degree of impairment: one to four is considered impairment; five to seven moderate involvement; eight to 10 is severe; 11 to 13, very severe and greater than 14, serious (Marx, FC et al, 2006).

The criteria for the inclusion on the research were: subjects with knee OA being treated at the UNIVALI Physiotherapy Ambulatory. The excluding criteria were non-agreement to participate in the research and a history of lower limb surgery in the previous three years.

The data collected were stored in an Excel table; these data were processed using descriptive statistics with frequency counts using the SPSS software. For correlation between weight, height and BMI with the functional sum we used Spearm's correlation, considering the significant relationships with $p < 0.05$.

RESULTS AND DISCUSSION

To design this study we applied the Lequesne Algofunctional Index Scores on 28 patients diagnosed with clinical knee osteoarthosis (gonarthrosis), who were part of the physiotherapeutic treatment as part of the rheumatology class, at the Physiotherapy Clinic of UNIVALI, block F5, Health Sciences Center.

The 28 subjects on this study were personally contacted before the treatments or shortly thereafter. We started collecting data on August 2012 until June 2013. The patients were took to a room where the objectives of the research were explained and where they had their weight and height measured, after which the questionnaire was filled.

At the end we measured the mean age amongst the participants, being 60 years old, the youngest being 43 and the oldest, 77 years old. Therefore, we concluded that the studied population was elderly.

AO is a common disease among the elderly, approximately 85% of the people with 70+ years present radiological signs of osteoarthrosis, even if asymptomatic. Such pathology is present in 35% of the knees of people with 30 years or older, afflicting almost every individual over 50 years of age (FRANCO, L. R. et al, 2009).

Aging leads to progressive changes in functional, motor and sensorial aspects of the individual's life. Among such modifications we can point out the alteration in the mechanism of the somato-sensorials systems, with the reduction of the transmission of motor-electric impulses related to balance. We can also mention the decrease in the muscle-response stimulus, muscular hypotrophy in these individuals and even the flexibility decrease that interferes in the ability of muscular contraction (RIBEIRO, R. G.; DOMINGUES, D. O.; SILVA, V. A., 2008). Franco, L. R. (2009), argues that aging leads to an increase in body fat, weakening of ligaments and tendons and a decrease in physical aptitude as well as in coordination.

These factors contribute to the elderly functional capacity and dependence. The elderly usually suffers from restriction of movements; limitations; loss of muscle strength and other impairments. Such handicaps make them more vulnerable, family-dependent as well as subject to the overall health system. From such a perspective, we observed a decrease in the quality of life of these individuals (SANTOS, N. G. B. et al, 2012).

The interviewed individuals comprised of 2 males and 26 females. According to Amorim, V. M.; Pereira, R. P.; Sandoval, R. A. (2010), gonathrosis is twice more prevalent in the female sex. That occurs because of the diminished muscular strength usually found in women, besides that, we can mention the use of high heels as a factor of muscular and articular tension. Pregnancy-related overweight and the overall tendency to overweight also overload the lower limbs joints. Silva, A. et al (2012)

asserts that cartilage is found in lesser degree in women than in men, not only that, menopause causes hormonal changes in women, leading to cartilage remodeling, diminishing the condroprotector hormone estrogen, muscle weakness and increased body fat. Despite that, the prevalence in women is not well-established.

When it comes to body weight, our sample presented a mean of 78,69Kg, the leanest weighing 54 Kg and the heaviest, 128,5 Kg. As for height, we found a mean of 1,56m, the shortest being 1,46m and the tallest, 1,80m. With these data we calculated the BMI of each individual. The mean BMI was 31,8 Kg/m2, the lowest was 21,1 Kg/m2 and the highest was 51,8 Kg/m2.

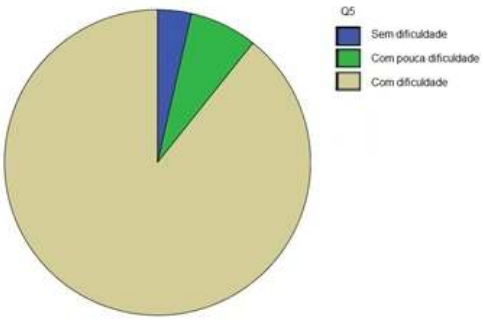
According to the World Health Organization, the BMI is classified as underweight when its value is under 18,5Kg/m²; normal within the 18,5 and 24,99Kg/m² range; overweight between 25,0 and 29,99 Kg/m², and obese with a value equal or higher than 30,0Kg/m² (WHO, 1997). In In our study we found the mean BMI of our subjects to fall in the range of what is considered obesity.

According to Dias, J. M. D., Dias, R. C., Vasconcelos, K. S. S. (2008), overweight individuals claim more intense joint pain on the knees than those with lower BMIs, and a higher functional difficulty. Franco L. R. et al (2009) asserts that the prognosis for the AO is worst in the obese, because obesity increases the load over the knee joint.

Pain is the main symptom of the OA. It can be caused by a wide array of conditions, such as the loss of the articular cartilage, the mechanical compression of the lateral and medial compartments, stretching of the medial collateral ligament and / or lateral collateral, micro fractures, capsular distension and patellar bursitis. The pain usually increases with movement and at the end of the day, and decrease with rest (Alfredo, PP; 2011).

Regarding the latter symptom, we concluded, using the data acquired, that the majority of our sample presented pain resting at night, while walking and when performing daily activities like standing up from a chair. The highest index found was pain or discomfort to stand up from a chair without the aid of the arms, in which 89,3% of the subjects said to have felt pain and difficulty to perform such activity.

Graph 1: Reference to the difficulty to stand up from a chair with the aid of the arms.



Morning rigidity was also approached, and 60,7% of the subjects interviewed claimed that the rigidity takes more than 15 minutes to wane.

We have analyzed the furthest walked distance with pain via the data gathered, and we can say that 75% can walk at least 1Km feeling pain. We can associate such difficulty to the decrease in physical activities, augmenting fatigue and the functional incapacity to perform daily life activities.

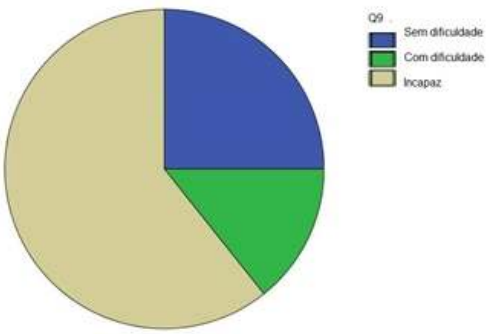
Novaes, G. S. et al (2011) assert that fatigue in patients with OA is found frequently, despite lack of studies, and one of the reasons that lead to the decrease in the functional capacity. In their study, they have demonstrated that the OA-related fatigue was very related to physical and psychological incapacity measured on the MAF test and not so much to related to pain.

Four of all the subjects interviewed used auxiliaries (crane or Canadian crutches), of these, two (7,14%) walked 100-300 meters, and two (7,14%) less than 100 meters. Therefore, the use of auxiliaries does not allow the increase in the length walked. We observed that three of these individuals were classified as suffering from extremely serious arthrosis, and one of them as very serious. We can conclude, therefore, that the disease's severity is highest among individuals who wear auxiliaries, and this fact lessens the length that they can walk.

The knee osteoarthrosis makes it difficult to perform functional activities, such as climbing the stairs, standing from chairs, standing up and walking, and that results in the decrease of physical aptitude and in the increase of cardiovascular comorbidities and even other pathologies such as depression (MARX, F. C. et al., 2006).

With regards to functional capacity, we have observed that the majority of subjects reported difficulty or incapability performing their daily life activities. The activities surveyed were: to climb or descend a flight of stairs, squatting or kneeling, and walking on irregular ground. In the squatting/kneeling 60,7% of all the interviewed reported being unable to perform it, this being, therefore, the most difficult task for this patients.

Graph 2: Reference to the difficulty to squat or to kneel.



FINAL CONSIDERATIONS

Based on the present research, we have concluded that most of the OA patients were elderly, obese and female. The data in the Lequesne tests led us to conclude that pain is a constant symptom in the life of these patients, who feel it while moving or even resting. When it comes to functional capacity, these patients have difficulties performing daily life tasks, even though few are incapable of performing them.

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PAIN EVALUATION AND FUNCTIONAL CAPACITY OF PEOPLE DIAGNOSED WITH KNEE OSTEOARTHROSIS THROUGH LEQUESNE ALGOFUNCTIONAL INDEX SCORES

ABSTRACT

Osteoarthrosis is a chronic and multifactorial disease defined as an alteration in the degradation and production of cartilage, resulting in damages to the joints and adjoining tissues. The pain and the rigidity lead to a reduction in the functional capacity of the individual. Age and obesity are etiological factors closely related to the emergence of pathologies, because they change both physiological and biomechanical factors in the joints. Once the pathology is present on the knee joint, it usually brings great losses in mobility and daily live activities. This research aimed to study the relation of algical complaints and the functionalities of individuals with knee OA who went through physiotherapy treatment at the Univali's Physiotherapy Ambulatory.

This is a quantitative study based on Lequesne Algofunctional Index Scores applied to patients diagnosed with knee OA at the aforementioned clinic, in which those who had refused to take part in the research were excluded along with those with a history of lower limb surgery in the previous three years. There were a total of 28 patients interviewed, whose mean age was 60 years old. Mean weigh was 78,69kg, and the BMI mean of 31,8 kg/m2. Conforming to extant literature, the subjects showed risk factors associated with the emergence and maintenance of the disease, such as: old age, obesity and of the female sex. For the most part, our sample complained about pain during rest at night, while walking and when in activities like stand up from a chair. They have also complained about morning rigidity that takes more than 15 minutes to cease. They mostly can't walk for more than one kilometer with pain, having difficulties performing daily life activities.

RÉSUMÉ

L'ostéoarthrose c'est une maladie chronique et multifactorielle définie comme une altéraction dans la dégradation et la production du cartilage, en résultant un dommage à l'articulation et aux tissus adjacents. La douleur et la rigidité mènent à la reduction de la capacité fonctionelle de ces individus. L'âge et l'obésité sont des facteurs éthiologiques étroitement relacionés au surgissement de la pathologie, puisqu'ils altèrent les facteurs phisiologiques et biomécaniques de l'articulation. Lorsque la pathologie est instalée à l'articulation du génoux, elle généralement amène de grands dommages à la locomotion et aux activités de la vie quotidienne. Avec cette recherche on a cherché savoir la rélation des plaintes algiques et de fonctinalité des personnes avec OA de génoux qui réalisent du traitement phisiothérapique dans l'Ambulatoire de Phisiothérapie de l'Université du Vale do Itajaí. Cet étude prend un caractère quantitatif, en travers l'application du questionnaire algofonctionnel de Lequesne envers des patients avec diagnostique d'ostéoarthrose de génoux que fréquentent la Clinique de Phisiothérapie de l' Univali. Ce sont inclus dans la recherche des individus portant diagnostique d'ostéoartrose, réçus à la Clinique de Phisiotérapie de l'Univali; furent exclus ceux qui ne s'accordèrent pas à participer à la recherche et ceux qui avaient eu quelque histoire de chirurgie de membre inférieur dans les derniers trois ans. La totalité des entrevues fut de 28 pacients, dont l'âge moyen était 60 ans.Le poids moyen était de 78,69kg et le IMC moyen était 31,8kg/m2. D'après la littérature, les participants de la recherche présentaient les facteurs de risque de manifestation et de mautention de la maladie, comme: l'âge avancé, l'obésité et le sèxe féminin. La plupart de notre échantillon a rapporté des douleurs pendant le repos nocturne, tout en marchant et en pratiquant des activités telles que se lever d'une chaise. Ils ont rapporté encore d'une rigidité matinale, qu'il falait plus de 15 minutes pour arrêter. Dans la plupart, ils ne peuvent marcher plus d'un kilomètre, avec douleur, et ont des difficultés à s'acquitter de leurs activités quotidiennes.

MOTS - CLES: ostéoarthrose, capacité fonctionnelle, facteurs de risque.

RESUMEN

La osteoartritis es una enfermedad crónica y multifactorial definida como una alteración en la degradación y producción del cartílago, resultando en daño a la articulación y tejidos adyacentes. El dolor y la rigidez llevan a la reducción de la capacidad funcional de esos individuos. La edad y la obesidad son factores etiológicos íntimamente relacionados al aparecimiento de la patología, una vez que alteran factores fisiológicos y biomecánicos de la articulación. Cuando la patología está instalada en la articulación de la rodilla suele traer grandes perjuicios a la locomoción y a las actividades de la vida diaria. Con esta pesquisa se buscó saber cual la relación de las quejas de dolor y de funcionalidad de personas con OA de rodilla que realizan tratamiento fisioterápico en el Ambulatorio de Fisioterapia de la Universidad del Vale de Itajaí. Este estudio es de carácter cuantitativo, a través de la aplicación del Cuestionario Algofunctional de Lequesne a pacientes con diagnostico de osteoartritis de rodilla que frecuentan la Clínica de Fisioterapia de la UNIVALI. Fueron incluidas en la pesquisa personas con diagnóstico de osteoartritis de rodilla atendidos en la Clínica de Fisioterapia de la UNIVALI, fueron excluidos aquellos que no concordaron en participar de la pesquisa y que tuviesen historia de cirugía de miembro inferior en los últimos tres años. El total de entrevistados fue de 28 pacientes, cuya media de edad fue de 60 años. La media de peso fue de 78,69 kg y la media de IMC 31,8 kg/m2. Conforme la literatura los participantes de la pesquisa presentaban los factores de riesgo de aparecimiento y manutención de la enfermedad, como: edad avanzada, obesidad y sexo femenino. La mayor parte de nuestra amuestra relató dolor durante el descanso nocturno, mientras caminan y cuando realizan actividades como levantar de la silla. Relatan también rigidez matinal que demora más de 15 minutos para cesar. La gran mayoría no consigue caminar más de un quilómetro con dolor y tiene dificultades en la realización de sus actividades de vida diaria.

PALABRAS CLAVE: osteoartritis, la capacidad funcional, factores de riesgo.

AVALIAÇÃO DA DOR E CAPACIDADE FUNCIONAL DE PESSOAS COM DIAGNÓSTICO DE OSTEOARTROSE DE JOELHO ATRAVES DO QUESTIONÁRIO ALGOFUNCIONAL DE LEQUESNE

RESUMO

A osteoartrose é uma doença crônica e multifatorial definida como uma alteração na degradação e produção da cartilagem, resultando em dano a articulação e tecidos adjacentes. A dor e a rigidez levam a redução da capacidade funcional desses indivíduos. A idade e a obesidade são fatores etiológicos intimamente relacionados ao aparecimento da patologia, pois alteram fatores fisiológicos e biomecânicos da articulação. Quando a patologia está instalada na articulação do joelho costuma trazer grandes prejuízos à locomoção e às atividades de vida diária. Com esta pesquisa buscou-se saber qual a relação das queixas álgicas e de funcionalidade de pessoas com OA de joelho que realizam tratamento fisioterápico no Ambulatório de Fisioterapia da Universidade do Vale do Itajaí. Este estudo é de caráter quantitativo, através da aplicação do Questionário Algofuncional de Lequesne a pacientes com diagnostico de osteoartrose de joelho que frequentam a Clinica de Fisioterapia da UNIVALI. Foram incluídos na pesquisa indivíduos com diagnóstico de osteoartrose de joelho atendidos na Clínica de Fisioterapia da UNIVALI, foram excluídos aqueles que não concordaram em participar da pesquisa e que tivessem história de cirurgia de membro inferior nos últimos três anos. O total de entrevistados foi de 28 pacientes, cuja média de idade foi de 60 anos. A média de peso foi de 78,69 kg e a média de IMC 31,8 kg/m2. Conforme a literatura os participantes da pesquisa apresentavam os fatores de risco de aparecimento e manutenção da doença, como: idade avançada, obesidade e sexo feminino. A maior parte da nossa amostra relatou dor durante o descanso noturno, enquanto andam e quando realizam atividades como levantar da cadeira. Relatam também rigidez matinal que demora mais de 15 minutos para cessar. A grande maioria não consegue caminhar mais de um quilômetro com dor e possui dificuldade na realização de suas atividades de vida diária.

PALAVRAS - CHAVE: osteoartrose, capacidade funcional, fatores de risco