153 - QUALITY OS LIFE IN PATIENTS WITH SPINAL CORD INJURY SUBMITTED TO PHYSIOTHERAPY NEUROFUNCTIONAL AND ACQUATIC PHYSIOTHERAPY.

JAQUELINE ZANELLA[1]
CRISTINA HAMERSKI ROMERO[2]
1 Acadêmica do Curso de Fisioterapia da Faculdade Assis Gurgacz – FAG.
2 Orientador – Docente do Curso de Fisioterapia da Faculdade Assis Gurgacz – FAG.
Faculdade Assis Gurgacz-FAG, Cascavel-PR, Brasil
jaqueczanella@hotmail.com

INTRODUCTION

The traumatic injury to the spinal cord is a condition that puts their lives in risk, has a sudden inset and can present serious complications, change the functionality and quality of life of sufferers.

The clinical treatment of this disease includes the management of cases of traume in the acute and chronic phase, acts with the main objective to promote the functionality, create a healthy person, eho can choose their own destiny, interfering directly in their quality of life. (STOKES, et al,2000).

The concept of quality of life is subjective, depends the sociocultural level, age and personal aspirations of the individual. The quality of life is related to self-esteem and personal well-being, covering a range of issues, including functional capacity, socioeconomic status, emocional state, social interaction, intellectual activity, self-care, family support, state of health, the cultural values, ethical and religious. It also understands the lifestyle, satisfaction with job and / or with daily activities and the environment in which live. (PAULA, et al 2008).

The neurofunctional physiotherapy and acquatic physiotherapy work in order to improve the quality of life and functional independence of patients with spinal cord injury.

The treatment plan and the objectives achieved will depend on the level of spinal cord injury of each patient. The neurofunctional physiotherapy aims to improve the mobility in bed, causing the patient perform changes of position, sit at lowest possible support, encouraging the equilibrium, make transfers from bed to wheelchair, from wheelchair to the toilet, changing according to the needs of the patient, move to different places with a wheelchair, strengthen the upper limbs to assist in tranfers, improve the physical and respiratory conditioning, always stimulating the functional independence of the patient. (STOKES, et al 2000).

One of the great objective achieved in the water treatement is the reduction of pain conditions. The water gives this effect by several factors. The first is for relief of mechanical stress, since the fluctuation decreases directly the load on the joints. A prolonged exposure is also able to decrease the sensitivity of nerve fiber conduction and slow. (RUOTI, et al., 2000).

Another important effect which is sought in hydrotherapy is to maintain or increase the range of motion by decreasing muscle tone, pain and stress factors. It is observed that the decrease in muscle tone and muscle spasms through reducing the emission of the facilitating stimuli to extensor muscle and desensitization of the muscle spindle. (HANSON, et al 1998).

You can still focus on an improvement in the physical condition of muscle, development of strength and resistance in cases muscle weakness, facilitation of paretic muscle and facilitation of gait and standing allowing for early walking and permit acquisitions in various postures. (BATES, et al 1998).

The activity in water is very pleasant, motivatind and stimulating. These characteristics give the hydrotherapy particularly high rates accession and acceptance, beyond psychosomatic mediate progress.

The main benefits observed are the development of motor coordination, aerobic conditioning, reduced spasticity, resulting in less fatigue compared to activities in soil. Besides, it brings great contributions to the rehabilitation process, can reduce the degree of weakness and complications, and contribute to independence in activities of daily living. (ALOCHE, et al 2004).

The objective of this study is present the effects that neurofunctional and acquatic physiotherapy exert in patients with spinal cord injury.

MATERIALS AND METHODS

This research characterized by being a study of cause and effect type of the longitudinal section and qualitative and quantitative. Participated to the study 5 patients with spinal cord injury, with an average of 2 years of injury and average of age 20 years that receiving attendance in the physiotherapy clinic integrated FAG - Assis Gurgacz College. the inclusion criteria considered were patients with spinal cord injury independent of the etiology, with the level of injury between C7 and T6 and patients who were able to perform acquatic physiotherapy.

The attendances were held in sector of neurofunctional and acquatic physiotherapy in rehabilitation clinic FAG - Assis Gurgacz College, having 40 minutes each. The study was perform in the period between July and September 2010, totaling 20 attendances, wich 10 in neurofunctional physiotherapy and 10 in acquatic physiotherapy.

To assess the quality of life of patients used an adapted version of the Short Form- 36 (SF-36) questionnaire, which is characterized by a generic questionnaire, with concepts not specific to a particular age, disease or treatment group and that allows comparisons between diferents diseases and diferent treatment. Considers the perception of individuals about their own health state and contemplate how many more relevant aspects of health. It is also easy to administer and understand the self-administered type. Is a multiprofessional questionnaire, consisting of 36 items, encompassed of 8 scales or components: Functional Capacity (10 items), Limitation by Role-Physical (4 items), pain (2 items), General Health (5 items), Vitality (4 items), Social Functioning (2 items), Limitation by Role-Emotional (3 items), Mental Health (5 items) and more one comparative assess between condition of current health and a year ago. Assesses both negatives aspects of health (disease or illness), as positive aspects (welfare). The data were assessed from the processing of answers into scores, scale 0 to 100 of each component, with no single value that summarize the entire assessment, resulting in a general state of health better or worse.

We must mention that this study the questionnaire was applied in a adapted version, in which the items of functional capacity (running, lifting heavy objects, climbing several flights of stairs and others) were not applied, considering that the sample patients had limited functionality, not realizing the proposed activities. The questionnaire was applied with propose to verify the variation (positive and negative) between the beginning and the end of treatment.

During the interview were considered biodemographical data such as age, medical history, level of injury, and contraindications to treatment in acquatic physiotherapy. The responsible researcher guiding and monitoring the completion of

the questionnaire. At the end of the study all patients were reassessed by the same reseacher using the same instruments for initial assessement.

The soil treatment was based on methods of PNF (Proprioceptive Neuromuscular Facilitation) that prioritizes the strengthening of muscles by the diagonals of movement and bobath method that has as main objective the facilitation of movement, inhibiting abnormal patterns and cinesiotherapy adapted. The treatment in water was based on the Bad Ragaz method that acts restoring normal patterns of movement, helping in the muscle strengthening and the Watsu method that provides a deep state of relaxation, modulating tone pathological and cinesiotherapy adapted to the water.

RESULTS

According to the proposed methodology the patients evaluated responded to an adapted version of the SF-36 questionnaire, translated and validated by Ciconelli, 1997, used with order to assess their own quality of life.

The results were converted into scores from 0 to 100, with 0 representing the worst state and 100 the best state in relation to their quality of life.

The first stage of the study was performed in July 2010, represented by the following table.

Table I: Assessment of quality of life in July 2010.

Functional Capacity	Average	Median	Standard Deviation
Limitation by Role-Physical	35 %	25 %	22.36
Pain	63.2 %	54 %	26.01
General Health	53.6 %	67 %	29.78
Vitality	62 %	55 %	14.83
Social Functioning	69.8 %	62 %	31.43
Limitation by Role-Emotional	77.8 %	80%	27.00
Mental Health	72 %	72 %	8.94

SOURCE: author/2010.

After 20 session, with 10 in solo and 10 in the water, the questionnaire was applied again by the same researcher, following the same criterial as the initial assess.

The following table represents the values obtained by questionnaire applied in September 2010.

Table II: Assessment of quality of life in September 2010

Functional Capacity	Average	Median	Standard Deviation
Limitation by Role-Physical	80 %	100 %	27.38
Pain	66 %	70%	25.09
General Health	54.6 %	62%	28.78
Vitality	67 %	70 %	10.36
Social Functioning	80.8 %	80%	19.00
Limitation by Role-Emotional	88.4 %	100%	17.11
Mental Health	68.8%	64 %	8.67

SOURCE: author/2010.

By analyzing the results obtained can be found the improvement of 45% in Limitation by Role-Physical, 2.8% in relation from pain, 1% in the general health, 11% in relation to Social Functioning, 5% em relation to vitality and 10.6% in Limitation by Role-Emotional. However, there was a decrease of 3.2% in relation to mental health

DISCUSSION

The quality of life is compromised as a whole in every people with spinal cord injury. VALL, et al 2006, presented a study with 50 patients with spinal cord injury which living in a community with more 40 people with the same age and without injury. Both groups completed the SF-36 questionnaire. The score of quality of life was significantly lower in the group of spinal cord injuries. In this study also can be seen changes in quality of life of patients with spinal cord injury, although there is an improvement of the sample patients after physiotherapeutic treatment, the quality of life still poor compared to people without spinal cord injury.

It is believed that qcquatic physiotherapy can act in reducing spasticity, providiing a gain of range of motion and consequently an improvement in the quality of physiotherapeutic treatment, reflecting in the capacity to perform the ADL's, resulting in improved of quality of life of patients with spinal cord injury. (CHIUMENTO et al , 2007). In this study wasn't evaluation fo spasticity, but can be seen through even when the patients perform their ADL's independently, their quality of life improves.

In the study proposed the use of the questionnaire of quality of life SF-36 before and after the treatment showed a significant improvement in quality of life of patients with spinal cord injury, mainly in limitation by physical and emocional aspects, and social aspects. JACINTO et al, 2008, reported that physioterapeutic treatment is able to develop new skills that assist in functional independence, interfering directly in their quality of life.

CERINI, 2006 presented a case study with a male patient, 24 years with spinal cord injury at T9 level, was perform 16 attendances in the sector of neurofunctional physiotherapy, with treatment based on PNF method (proprioceptive neuromuscular facilitation), at the end of the research can be found strengthening and flexion, extension an trunk rotation, which can assist in transfers, improving the functional independence of the patient, reflecting directly on their quality of life.

In one case study presented by GOMES, 2006, a patient, 27 years, after suffering a spinal cord injury by firearms held 11 sessions of physiotherapy, with 8 in soil and 3 in hydrotherapy. After the treatment the patient showed improvement in aerobic conditioning, increased range of motion in flexors, extensors and trunk rotators, improvement in equilibrium, increase th muscle strength in lower limbs, and improve your self confidence. It was concluded that the neurofunctional and acquatic physiotherapy

treatment contributed to the quality of life of this patient.

MURTA, et al 2007, presented through a study that patients with spinal cord injury have difficulty adjusting to the new situation, the lack of functional independence is a great attribute that can trigger various factors such as depression, anxiety, fear, aggression, among others. In the present study was observed a decrease of 3.2% in relation to mental health, but the addition of the factors mentioned above also emotional and psychological problems interfere in mental health of patient, so it is indicated along with physioterapeutic treatment, psychological counseling for patient.

CONCLUSSION

From the present study and a literature review, concluded that patients with spinal cord injury of different etiologies can have several physical complications such as decreased of strength and muscle shortening, bone deformities, decrease range of motion, changes in balance and equilibrium reactions, difficulties to perform the walking or even not doing it, difficult to perform transfer, among others. Besides presenting psychological changes such as anger, denial, low self-esteem, depression, anxiety and mood changes.

These changes psychomotor and psychological interfere directly in the quality of life and in the functional independence of patients with spinal cord injury. Aiming to return partial or full functional independence of patients, the neurofunctional physiotherapy and acquatic physiotherapy shown to be effective in treatment to spinal cord injury, contributing to improved physical, psychological, emotional, besides acting in quality of life of patients of the sample.

REFERENCES

ALOCHE.Sandra Regina.;CHIARELLO,Berenice.;CRUZ,Viviane Silva. *Os benefícios da natação adaptada em indivíduos com lesões neurológicas.* São Paulo,2004.

BATES,A.;HANSON,N. *Exercícios Aquáticos Terapêuticos.* Ed. Manole São Paulo,1998.

BUCK, Adler Beckers, PNF *Método Kabat Facilitação Neuromuscular Proprioceptiva*, 1ª ed , São Paulo,1999.

CERINI, Débora Vanessa , *Facilitação neuromuscular proprioceptica na lesão medular com ênfase na força e na amplitude de movimento ativa de tronco:Estudo de Caso*, Cascavel, Paraná, 2006.

CHIUMENTO, Lisiane Fabris.; SILVA, Lilian Cardoso. *Análise da espasticidade de membros inferiores em pacientes com traumatismo raquimedular,submetidos ao relaxamento aquático.* Santa Catarina,2007

CICONELLI,R.M.*Tradução para o português e validação genérico de avaliação de qualidade de vida "medical* outcomes study 36-item short- form.(1997).

GOMES, Marcelo Vitor,CAMARGO, Carla Regina Moreira, *Fisioterapia no traumatismo raquimedular: Estudo de caso.*Foz do Iguaçu, Paraná,2006.

MURTA, Sheila Giardini, GUIMARÃES, Suely Sales, *Enfrentamento à lesão medular traumática*, Brasília, 2007.

PAULA,Juliana de Anjos.;ROQUE,Francelise Pivetta.;ARAÚJO,Flavio *Soares de.Qualidade de vida em cuidadores de idosos portadores de demência de Alzheimer.*Macéio,J Brás Psiquiatr,v.57, n.4,p.283-287, 2008.

RUOTI, Richard G.; DAVID M. Morris e ANDREW J. Cole. *Reabilitação aquática.* 1ªed.São Paulo: manole Ltda, 2000.

STOKES,MARIA.Neurologia para fisioterapeutas.São Paulo,2000.

VALL, Janaina, BRAGA, Violante Augusta Batista, ALMEIDA, Paulo Cesar, *Estudo da qualidade de vida em pessoas com lesão medular traumática,* Ceará ,2006.

Rua: Roberto Silveira, 238. Bairro: Centro
Dois Vizinhos – Paraná – Brasil.
CEP: 85660-000.
Email: jaqueczanella@hotmail.com

QUALITY OS LIFE IN PATIENTS WITH SPINAL CORD INJURY SUBMITTED TO PHYSIOTHERAPY NEUROFUNCTIONAL AND ACQUATIC PHYSIOTHERAPY.

ABSTRACT

Introduction: Patients with spinal cord injury with different etiologies can have functional limitations such difficulty in performing transfers, feeding, dressing, walking, among others. These changes interfere directly in the quality of life. The neurofunctional physiotherapy and acquatic physiotherapy work in order to reduce this limitation and failures, rescuing the most quality of life of these patients. The treatment in soil and in the liquid show great acceptance rates, tha ctivities become pleasant, improving self-esteem and social interaction of patients. Act directly on the improvement of functional capacity, provide early walking, increase in range of motion, increase the muscle strength, improvement in balance and equilibrium reactions, among others. Objective: To analyze the effects presented by neurofunctional and acquatic physiotherapy in patients with spinal cord injury after the submit the treatment. Methodology: Held a study with 5 volunteers of both genders, with an average of 2 years after the injury and average of age 20 years that receiving attendance in sector of neurofunctional and acquatic physiotherapy in rehabilitation clinic FAG - Assis Gurgacz College. Results: Through this study, it was the average the patients who participated in the study, can be found the improvement of 45% in Limitation by Role-Physical, 2.8% in relation from pain, 1% in the general health, 11% in relation to Social Functioning, 5% em relation to vitality and 10.6% in Limitation by Role-Emotional. However, there was a decrease of 3.2% in relation to mental health. Conclusion: It is understood that through this study that neurofunctional physiotherapy acting in conjunction with the acquatic physiotherapy can bring benefits in relation the quality of live of patients with spinal cord injury.

KEYWORDS: Neurofunctional and Acquatic Physioterapy, Quality of life, Spinal Cord Injury.

QUALITÉ DE VIE EN PATIENTS AVEC LÉSION MÉDULLAIRE SOUMIS À PHYSIOTHÉRAPIE NEUROFONCTIONNELLE ET PHYSIOTHÉRAPIE AQUATIQUE .

RÉSUMÉ

Introduction : Patients avec lésion médullaire de différents étiologies peuvent présenter limitations fonctionnelles avec difficultés pour réaliser des changements, se nourrir, s'habiller, déambuler, entre autres. Ces modifications peuvent intervenir directement dans sa qualité de vie. La physiothérapie neurofonctionnelle ensemble avec la physiothérapie aquatique agit avec l'intention de diminuer ces limitations et dysfonctions, en sauvant au maximum la qualité de vie de ces patients. Le traitement dans le sol et au milieu liquide présentent grands indices d'acceptation ; les activités se rendent agréables, en améliorant l'amour propre et l'interaction sociale des patients. Ils agissent directement dans l'amélioration de la capacité fonctionnelle, fournissent déambulation précoce, augmentation dans les amplitudes de mouvement, augmentation de force

musculaire, amélioration dans les réactions de balance et de l'équilibre entre autres. Objectif : Analyser les effets présentés par la physiothérapie neurofonctionnelle et physiothérapie aquatique en patients avec lésion médullaire après se soumettent au traitement. Méthodologie : S'est réalisé une étude avec 5 volontaires des tous les deux sexes, en moyenne de 2 ans après la lésion et moyenne d'agê 20 ans que reçoivent l'accueil dans le secteur de physiothérapie neurofonctionnelle et physiothérapie aquatique dans la Clinique de réhabilitation FAG – Faculté Assis Gurgacz. Résultats : À travers la présente étude effectuée, s'est fait la moyenne des patients qu'ils ont participé de l'étude, et peut être constaté une amélioration de 45% dans les limitations fonctionnelles, 2,8% en concernant la douleur, 1% dans l'aspect général de la santé, 5% en relation la vitalité, 11% en relation l'aspects sociaux et 10,6% en relation à des limitations par des aspects sociaux. Cependant s'est présenté une moyenne d'une chute de 3,2% en relation à la santé mental. Conclusion : Se comprend à travers de cette étude que la physiothérapie neurofonctionnelle en agissant ensemble avec la physiothérapie aquatique peuvent apporter bénéfices en relation la qualité de vie des patients avec lésion médullaire.

MOTS-CLÉS : Physiothérapie Neurofonctionnelle et Aquatique, Qualité de Vie, Lésion Médullaire.

CALIDAD DE VIDA EN PACIENTES CON LESIÓN MEDULAR SOMETIDOS A FISIOTERAPIA NEUROFUNCIONAL Y FISIOTERAPIA ACUÁTICA.

RESUMEN

Introducción: Los pacientes con lesión medular de diferentes etiologías pueden tener limitaciones funcionales, tales como dificultad en la realización de transferencias, alimentarse, vestirse, caminar, entre otras. Estos cambios pueden afectar directamente su calidad de vida. La fisioterapia neurofuncional juntamente con la fisioterapia acuática actúan con el fin de reducir estas limitaciones y disfunciones, rescatando al máximo la cualidad de vida de estos pacientes. El tratamiento en el suelo y en medio líquido presentan una gran aceptación, las actividades se tornan agradables, la mejora de la autoestima y la interacción social de los pacientes. Actúan directamente en la mejora de la capacidad funcional, proporcionan deambulación precoz, el aumento en las amplitudes de movimiento, el aumento de la fuerza muscular, la mejora en las reacciones de balance y equilibrio entre otros. Objetivo: Analizar los efectos producidos por la fisioterapia neurofuncional y fisioterapia acuática en pacientes con lesión medular tras someterse al tratamiento. Metodología: Se realizó un estudio con 5 voluntarios de ambos sexos, con un promedio de 2 años después de la lesión, y edad media 20 años, que reciben atendimiento en el sector de fisioterapia neurofuncional y fisioterapia acuática en la Clínica de Reabilitação FAG- Faculdade Assis Gurgacz. Resultados: A través de este estudio, se hizo el promedio de los pacientes que participaron del estudio, y se puede comprobar una mejora de un 45% en las limitaciones funcionales, el 2,8% en relación al dolor, el 1% en el aspecto general de la salud, el 5% en relación a vitalidad, el 11% en relación a aspectos sociales y el 10,6% en relación a las limitaciones por aspectos sociales. Pero el promedio presentó un descenso del 3,2% con respecto a la salud mental. Conclusión: Se comprende a través de este estudio que la fisioterapia neurofuncional actuado en conjunto con la fisioterapia acuática puede traer beneficios para la calidad de vida de los pacientes con lesión medular.

PALABRAS CLAVE: Fisioterapia Neurofuncional y Acuática, Calidad de Vida, Lesión Medular.

QUALIDADE DE VIDA EM PACIENTES COM LESÃO MEDUALR SUBMETIDOS A FISIOTERAPIA NEUROFUNCIONAL E FISIOTERAPIA AQUÁTICA

RESUMO

Introdução: Pacientes com lesão medular de diferentes etiologias podem apresentar limitações funcionais como dificuldades para realizar transferências, alimentar-se,vestir-se, deambular, entre outras. Essas alterações podem interferir diretamente em sua qualidade de vida. A fisioterapia neurofuncional juntamente com a fisioterapia aquática atuam com o propósito de diminuir essas limitações e disfunções, resgatando ao máximo a qualidade de vida desses pacientes. O tratamento em solo e no meio líquido apresentam grandes índices de aceitação; as atividades tornam-se prazerosas, melhorando auto-estima e a interação social dos pacientes. Atuam diretamente na melhora da capacidade funcional, proporcionam deambulação precoce, aumento nas amplitudes de movimento, aumento de força muscular, melhora nas reações de balance e equilíbrio, entre outros.Objetivo: Analisar os efeitos apresentados pela fisioterapia neurofuncional e fisioterapia aquática em pacientes com lesão medular após se submeterem ao tratamento. Metodologia: Realizou-se um estudo com 5 voluntários de ambos os sexos, com média de 2 anos após a lesão e média de idade 20 anos que recebem atendimento no setor de fisioterapia neurofuncional e fisioterapia aquática na Clínica de reabilitação FAG- Faculdade Assis Gurgacz. Resultados: Através do presente estudo realizado, fez-se a média dos pacientes que participaram do estudo, pode ser constatado uma melhora de 45% nas limitações funcionais, 2,8% em relação a dor, 1% no aspecto geral da saúde, 5 % em relação a vitalidade, 11% em relação a aspectos sociais e 10,6% em relação a limitações por aspectos sociais. Porém a média apresentou uma queda de 3,2% em relação à saúde mental. Conclusão: Compreende-se através deste estudo que a fisioterapia neurofuncional atuando em conjunto com a fisioterapia aquática podem trazer benefícios em relação a qualidade de vida de pacientes com lesão medular.

PALAVRAS CHAVES: Fisioterapia Neurofuncional e Aquática, Qualidade de Vida, Lesão Medular.