26 - FUNCTIONAL SWIMMING IN THE PATIENTS WITH MEDULAR INJURY

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INTRODUCTION

1 INJURY MEDULAR

The spinal cord injury is one of the most serious between the disabling syndromes, as is a real challenge for rehabilitation. This difficulty stems from the importance of the spinal cord, which is not only a way of relating and efferent impulses between different parts of the body and brain, but also a center regulator that controls the important functions such as breathing, circulation, the bladder, intestine, the thermal control and sexual activity. (LIANZA, 1993)

1.2 HYDROKINETIC THERAPY

The hydrokinetic therapy is the application of water as a means for external therapeutic purpose, where its recognition by the academic community is very recent by factors: hydrostatic, hydrodynamics, and thermotherapy. (CAROMANO and NOWOTNY, 2002).

Swimming is one of sports most appropriate for individuals with some kind of physical disability because of the benefits and facilities offered by the implementation of moves with the body submerged in water. The swimming develops coordination, aerobic conditioning, reduces spasticity, and results in less fatigue than other activities. Moreover, brings great contributions to the rehabilitation process and may reduce the degree of weakness and complications. For people with disabilities, swimming has therapeutic value, recreational and social, (TSUTSUMI, 2004).

According to Tsutsumi (2004), swimming for these types of involvement can promote education for leisure; keep the amplitude of movement and retain its function; develop body image, looking for the functionality; promote self-affirmation that is reflected in interpersonal relationships, helping the rehabilitation of the bladder; promote hygienic habits; balance the excessive development of the upper limbs and providing the relaxation of these muscle groups requested constantly; balance the excesses of the column and transverse axes; stimulating the cardiovascular and respiratory functions, and promote social integration.

1.3 QUALITY OF LIFE

According Nahas (2001), the quality of life can be understood as a human condition that reflects an individual set of parameters, social-cultural, psychological and environmental conditions that characterize a living human being.

These are goals of swimming for paraplegic and quadriplegic: promoting health education, educate the individual for life in society and the free time offer experiences of success, to increase tolerance to frustration, promote social contact, more independent individuals, improve self-image and self-esteem, develop the potential waste, improve the condition organfuncionality and improve the physical qualities (resistance, strength and speed) (SILVA, 2005).

1.4 SWIMMING THERAPEUTIC

Paeslack (1991), considers the swimming beneficial for paraplegics in the following respects: recovery and improvement of physiological functions affected by injury; training of the muscles of trunk, waist and arms scapular; training of motor coordination; assistance in training the balance in upright position or sitting; training of the muscles which was partially injured, in the case of paresis; incentive to improve performance physical confrontations in sports.

With the benefits of swimming adapted to the injured spinal cord in the phase of rehabilitation, Souza (1994) mentions that the sport allows the remaining capacity, to learn new skills and reduced the number of clinical complications associated with spinal cord injury. Already in the context of leisure, sport gives paraplegic and quadriplegic, in addition to the effects commented, greater range of beneficial aspects, such as: provides experience of success, acting in a positive self-image and self-confidence; enables the release of tensions and aggressiveness; reduces dependence physical and mental, the apathy and isolation; facilitates the return of the individual in their family life, educational, vocational and recreational; trains for work in groups, stimulating the responsibility and initiative; improves techniques management of the wheelchair; predisposes the individual to higher levels of income.

The purpose of this study is to direct the conduct between the swimming therapy in the process of rehabilitation physiotherapeutic and its effect on the quality of life in spinal cord injured patients.

MATERIALS AND METHODS

The population was composed of five male patients with clinical diagnosis spinal injury (LRM), aged between 18 and 47 years, residents in the city of Cascavel in the state of Parana. The inclusion criteria considered were: have a clinical diagnosis of spinal cord injury at least 6 months; have X-ray showing local injured; neural various levels, including C 7 to L 4; have some kind of experience with swimming pool; cognitive preserved for implementation of proposed activities; have signed the term of free and informed consent and does not make any counter-indication for absolute practice of hydrotherapy.

The instrument of assessment and reassessment, used in this study was based on the application of a questionnaire on quality of life (WHOQOL-Focus), written by Fleck (1998). This instrument consists of 26 questions that address four areas, which are: Physical, psychological, social relations and the Environment. All patients, responded alone and seriously all the issues proposed.

After selection and evaluation of the sample the patients were seen between the months of july, august and september, three times a week, 50 minutes duration of each service, totaling 20 meetings.

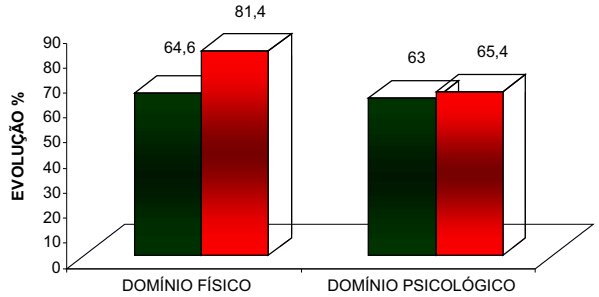
The activities of rehabilitation proposals were held in groups in the sector of hydrokinetic therapy, the Centre for Rehabilitation of FAG Faculdade Assis Grurgacz. Pool with average depth 1.30 m to 1.80 m, 10m length and width 6m and average temperature of 34 °. Materials used to practice the exercises were: pelvic belt, collect cervical, gloves of resistance, dumbbells, espaguetes and rings.

Is very important to emphasize that patients were always attended by the same team, made up of the researcher responsible and six (6) academic volunteers of the fifth period of the course of Physiotherapy, chosen randomly by the researcher

and tutor of the study. The programme of water activities proposed in this study, based on an analysis of bibliographies published in the area of aquatic rehabilitation, with emphasis on physical principles, Halliwick method, Method Watso and kinesiotherapy water. The exercises were performed 10 minutes of stretching of the upper limbs, legs and torso in various positions, 10 minutes of strengthening overall upper limbs, and lower trunk, using different equipment and postures, 10 minutes of diving, two by two hand in hand , To hold the diving surface and hold hands for about 20 seconds increasing gradually in the same position was the diving with the patient sitting at the bottom of the pool and in the same position with the patient lying prone in the bottom of the pool. Also, dives were made involving trunk rotations of the plans cross-sagittal and longitudinal, 10 minutes of swimming adapted to collect cervical and pelvic belt, swim back in pronation and mined using a pelvic belt with resistance. Activities like swimming were also carried out so competitive in order to arouse the interest in new goals, motivation and integration with the team. To close, 10 minutes of relaxation using the method Watso in different postures, ending the attendance of 50 minutes.

RESULTS

Statistical analyses of results were obtained by paired T test of students, and index of significance p = 0.05 Chart 1 and 2 shows the percentage development change the outcome of the measures taken before and after the intervention in physiotherapeutic group. Being able to observe that in the patients received a physical improvement from 64.6% to 81.4% and (p = 0.04) and thus a result statistically proven, as well as in the psychological development percentage rose from 63% to and 65.4% (p = 0.36) with no statistically relevant. Already in the field Behavior there was an improvement from 34.6% to 44.1% (p = 0.04) also have a statistical evidence, and already in the social field the average rose from 10.2% to 12.6% taking (p = 0.21) also no statistical significance.



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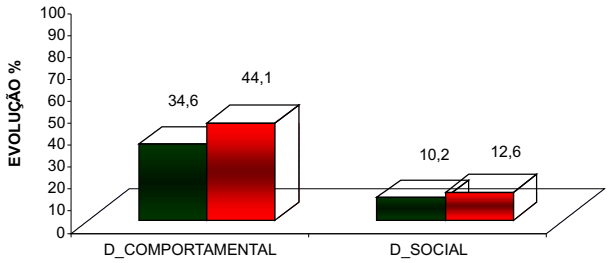

The graphic 3 shows the average percentage change from the four areas. Noting that the area received physical improvement of 26.01%, 27.46% of field behavior, the social sector, 23.53% and 10.63% of psychological field and the areas that have statistical significance were the behavioral and with the physical (p = 0.04).

Discussion

Swimming is one of the most comprehensive sports and provides a variety of exercises both in individuals in general and for individuals with some kind of physical disability in this study there was a 26% improvement in physical taking a statistically significant improvement.

According to the questionnaire WHOQUOL-bref, the field physical addresses issues related to pain prevents you from doing something, if it needs medical treatment in their day to day, if you have enough energy during the day, whether it is able to move, if sleeps well, if you can play your activities of everyday life and how you feel with the work.

The physical properties of water (density, hydrostatic pressure, viscosity, among others) can influence on human behaviour, both in physiological aspects, physical and psychological. You can expect, then, a variety of purposes, in muscles and the locomotive system, an improvement will occur in the blood. With the muscle contraction and relaxation, observed in the practice of aquatic activity, there will be incentives for the development of muscles and therefore improvement in body posture, and functional abilities.

According Tsutsumi (2004) the swimming is one of sports most appropriate for individuals with some kind of physical disability because of the benefits to the facilities offered by the implementation of moves with the body submerged in water. The swimming develops coordination, aerobic conditioning, reduces spasticity, and results in less fatigue than other activities.

Moreover, brings great contributions to the rehabilitation process and may reduce the degree of weakness and complications.

The quality of life is defined by the World Health Organization (2007) as "the perception of the individual from their position in life, in the context of culture and value system in which lives and for their goals, expectations, standards and concerns".

The results of the study Bampi (2008) showed that the areas related to environment and health physics received the worst scores of evaluation (49.61% and 50.26%, respectively). This may be related to the fact that the spinal cord injury cause physical changes with which the person has to learn to live. In the study sample, it was observed that most of those interviewed had little time since the trauma and perhaps for that reason, have not dealt adequately with these changes. The physical changes and the social barriers may hinder their lives and interfere in the evaluation of the quality of life of people with spinal cord injury.

In this study it was observed that the domain physical and behavioral been one of the best scores to average 26,% and 27.46% of improvement other than the study shown above. This may be related to the use of the pool as a therapeutic and also the adaptation of patients with the injury since one of the criteria for inclusion were patients with spinal cord injury at least 6

months ago. Drawing the penalty emphasized that the study sample, 100% of patients had time to injury over 2 years.

A study by Vall (2006) with 32 paraplegic adult patients with complete spinal cord injury, traumatic etiology, mostly male, aged between 20 to 47 years and between 5 to 10 years of injury using the questionnaire WHOQUOL-Focus, resulted in the patient with traumatic spinal cord injury is severe impairment of their quality of life in all areas, particularly with regard to social aspects, with questions on the questionnaire obtained a percentage of 43.36% related to aspects social, and that there were no complications physiotherapeutic.

Already this study, we can see that the percentage of the questions related social rose from 10.2% to 12.6% getting a 23.53% improvement in post intervention water, knowing that the social domain address some questions related to, as they feel in personal relationships with friends, neighbor, relatives and colleagues, is satisfied with the sexual relationship and is satisfied with the support of friends.

The swimming for patients with physical disabilities, in addition to providing development potential of the body as a whole, improves their self-image and social inclusion of this group. In conducting a study with 10 patients with spinal cord injury in age between 13 and 46 years Almeida (2007) noted that the functional swimming for patients with spinal cord injury is very beneficial because it obtained a correlation average of 86.43% in the psychological domain.

As well as this study noted an improvement in the domain of psychological 10.63% from 63% to 65.4% showed no statistical results on some issues related to the psychological field as if it takes the life, if you believe that life has meaning, to focus, is able to accept their physical appearance, if often has feelings of bad mood, hopelessness, anxiety or depression.

Therefore it is suggested a new search, with a greater number of individuals and with more care to verify that the psychological and social field can have any statistical significance.

CONCLUSION

After implementation of the proposed activity and the computation of results in the study sample was possible to see a significant improvement in quality of life of patients with spinal cord injury. Thus, it is possible to say that the swimming performance has beneficial effects related to the quality of life of these patients.

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FUNCTIONAL SWIMMING IN THE PATIENTS WITH MEDULAR INJURY

Summary:

The swimming therapy targeted to functional rehabilitation of damaged spinal cord, have the basic premise with to promote health and functional independence of the individual, the reeducating for a life in society, thus improving their self-image and self-esteem. The purpose of this study is to direct the conduct of swimming therapy in the process of rehabilitation physiotherapeutic and its effect on the quality of life in spinal cord injured patients. The population was composed of five male patients with clinical diagnosis spinal injury (LRM), aged between 18 and 47 years, residents in the city of Cascavel in the state of Parana, and as a tool for assessment and reassessment of the use of a questionnaire quality of life WHOQUOL-bref, written by Fleck (1998) covering four areas before and after intervention physiotherapeutic. The results were satisfactory and an improvement in the physical domain of 26%, field behavioral 27.46%, 23.53% and the social sphere psychological field of 10.63%. So can conclude that the Swimming therapy can influence the quality of life of patients with spinal cord injury.

Keywords: Swimming functional, quality of life, injury Medular

FONCTIONNELLE DE NATATION CHEZ LES PATIENTS AVEC DES BLESSURES MEDULAR

Résumé:

La natation thérapie ciblée de réadaptation fonctionnelle de la moelle épinière endommagée, le principe de base avec de promouvoir la santé et l'indépendance fonctionnelle de l'individu, l'reeducating pour une vie dans la société, améliorant ainsi leur image de soi et l'estime de soi. Le but de cette étude est de diriger la conduite de la natation thérapie dans le processus de réhabilitation et de physiothérapie par ses répercussions sur la qualité de vie dans la moelle épinière blessés. La population était composée de cinq patients de sexe masculin avec le diagnostic clinique blessée à la colonne vertébrale (GRJ), âgés entre 18 et 47 ans, résidents dans la ville de Cascavel, dans l'État de Parana, et comme un outil pour l'évaluation et la réévaluation de l'utilisation d'un questionnaire qualité de vie WHOQUOL-bref, écrite par Fleck (1998) couvrant quatre domaines avant et après l'intervention physiothérapie. Les résultats étaient satisfaisants et une amélioration dans le domaine physique de 26%, le domaine du comportement 27,46%, 23,53% et le domaine social, psychologique domaine de 10,63%. Alors peut conclure que la thérapie de natation peuvent influer sur la qualité de vie des patients atteints de lésion de la moelle épinière.

Mots-clés: Natation fonctionnelle, la qualité de vie, le préjudice Medular

NATACIÓN FUNCIONAL EN PACIENTES CON LESION DE LA MEDULA ESPINAL

Resumen:

La terapia de natación dirigidos a la rehabilitación funcional de la médula espinal dañada, tiene como la premisa básica promover la salud y la independencia funcional del individuo, reeducando para una vida en la sociedad, mejorando así su

imagen de sí mismo y autoestima. El objetivo de este estudio es la realización directa de natación terapeutica en el proceso de rehabilitación fisioterapéuticos y su efecto sobre la calidad de vida en la médula espinal lesionada dos los pacientes. La población estaba compuesta por cinco hombres pacientes con diagnóstico clínico lesión medular (LRM), con edades comprendidas entre los 18 y 47 años, residentes en la ciudad de Cascavel en el estado de Paraná, y como una herramienta para la evaluación y reevaluación de la utilización de un cuestionario de calidad de vida WHOQUOL-bref, escrito por Fleck (1998) que abarca cuatro áreas antes y después de la intervención fisioterapéutica. Los resultados obtenidos fueron satisfactorios y una mejora en el domineo de 26%, sobre el domineo del comportamiento 27,46%, 23,53% y lel domineo social psicológica de 10,63%. Por lo tanto, podemos concluir que la terapia de natación puede influir en la calidad de vida de los pacientes con lesión de la médula espinal.

Palabra clave: Natación funcional, Calidad de vida Medula Espinal

NATAÇÃO FUNCIONAL EM PACIENTES COM LESÃO MEDULAR

Resumo:

A Natação terapêutica direcionada a reabilitação funcional de lesados medulares, tem por premissa básica a promoção da saúde e independência funcional do indivíduo, o reeducando para uma vida em sociedade, melhorando assim sua auto-imagem e auto-estima. O objetivo do presente estudo é estabelecer a realização direta entre natação terapêutica dentro do processo de reabilitação fisioterapêutica e sua influência sobre a qualidade de vida em pacientes lesados medulares. A população foi composta por cinco pacientes do sexo masculino com diagnóstico clinico lesão raquimedular (L.R.M.), idade entre 18 e 47 anos, residentes no município de Cascavel no estado do Paraná, tendo como instrumento de avaliação bem como de reavaliação, a utilização de um questionário de qualidade de vida WHOQUOL-bref, elaborado por Fleck (1998) abordando quatro domínios antes e após intervenção fisioterapêutica. Os resultados foram satisfatórios tendo uma melhora no domínio físico de 26%, domínio comportamental 27,46%, domínio social 23,53% e domínio psicológico de 10,63%. Assim podendo concluir que a Natação terapêutica pode exercer influência na qualidade de vida de pacientes com lesão medular.

Palavras-chave: Natação funcional, Qualidade de vida, Lesão Medular.