111 - THE BENEFITS OF THE HYDROCAPOEIRA FOR THE PATIENTS NEUROLOGICAL

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Introduction

The water offers the usage of its specific properties, physical and physiological effects for an appropriate treatment by the use of therapeutic exercise. The water has effects on the body's surface as well as on the whole organism.

The majority of neurological patients show a wide range of motoric deficiencies. One of them is spasm, which is an involuntary muscle contraction. They also present abnormal movement synergy that can be present in flexion and extension effort, which can lead to a balance deficit and slower start of movements (BORGES et al, 2004). Therefore the stability of posture is diminished what leads to a reduction of strength. Possible contractions and deformities have an impact on daily activities. Furthermore these patients have deficit of orientation in space, which is one reference for our body's perception in its environment. In addition patients present cognitive, notion and memory deficits that go along with difficulties in social relationship (MACHADO, 2003).

The water in relation to the sensory system stimulates balance, proprioception and orientation in space, for it is an unstable environment that provokes an constant imbalance, facilitating reactions of reposition and balancing, and because there is no point of support, forcing the alteration of posture (MACHADO, 2003).

Therapeutic activities realized in aquatic environment promote physical and social wellness as well as stress relief, making it possible to stimulate self-confidence and pleasure, causing better familiarity of the own body and its limits and the learning of new abilities (LORENZETI & GUSSO, 2004).

Diverse therapies have been adapted to the water and its benefits. One example is Ai Chi. It's a relaxing aquatic relation, adapted is Taichi Chuan. Another one is Woga, which is a water-adapted form of traditional Yoga that uses the effect of water pressure on an object in liquid environment. Hydro-gymnastics work with exercise in water to improve physical condition. And it was in this context that an adaptation of Capoeira to water was made, known as Hydrocapoeira. It was during the time of slavery in Brazil that the African slaves begun with Capoeira as way of fight and dance. This disguised self-defense was the way of the slaves to express their identity and strengthening the group consciousness. The slaveholders understood it just as an typical dance brought from Africa (LORENZZETTI & GUSSO, 2004). Today Capoeira is a kind of dance and fight for everybody that has positive effects on motoric abilities as well as social dynamism among practitioners (LORENZETTI & GUSSO, 2004).

Hidrocapoeira was created by Master Odilon in the state of Bahia. The main idea is to overcome the water resistance by these movements what has an effect of improving muscle strength and balance. In this technique circular movements are used as well as diagonal, lateral and frontal kicks while coordinating arms and legs.

These activities promote flexibility, strength, balance, resistance, coordination and improvement of cardiac-respiratory performance.

Considering the energetic movement that is done during the practice of Hydrocapoeira, we realize that the auto-perception and self control help to build a healthy psycho-social development (LORENZETI & GUSSO, 2004).

Aquatic activities promote benefits like self-confidence, fighting anxiety, low sensation of vulnerability and other necessary facts for this healthy development (GUSSO, 2003). The objective of this work was to evaluate the balance of neurological patients and the influence of it in their quality of life by Hydrocapoeira.

Methodology

The study was realized with a group of study (figure 1) with neurological patients in the Centro Universitário Adventista de São Paulo (UNASP) polyclinic, Campus São Paulo during a period of four months, twice a week with 50 minutes sessions.

Figure 1: HydroCapoeira Circle



A questionnaire about quality of life (SF-36) was applied in which was evaluated the functional capacity, social aspects, physical aspects, emotional aspects, general state of health, vitality, mental health and pain (CICONELLI, 1997). It was also realized an evaluation of balance (Berg Balance Scale) (BERG, 1992), considering the fall index for every participant of Hidrocapoeira. The questionnaires where applied by the responsible of this work in the beginning and the end of the study.

Results were evaluated in pre- and post treatment according with the statistic analysis by the medium and standard deviation.

This work was presented to the ethical committee of the UNASP where it was evaluated an approved according to the 196/96 resolution.

In the beginning of the therapy an informed consent declaration was done. This declaration was assigned by the study group as well as by the control group in which was assured that they were clear in relation to the study. This group was formed by six neurological patients: Three men with head trauma, one man with stroke accident, one woman with muscular dystonia and one woman with non progressive chronical encephalopathy. The medium age was 26,16 years. The hydrotherapy associated to Capoeira movements (Figure 2) was adapted so that the patients could practice physical activities independent of their deficit degree.

Figure 2: Movements of Hydrocapoeira



It was used a warm-water pool of the UNASP polyclinic with approximately 33ºC. Movements were accompanied by songs. The inclusion criteria was neurological patients with march abilities, adapted to water, with sufficient preserved cognitive capacity to understand and execute the movements and at the age of 15 to 35 years. Criteria of exclusion were patients with contraindication of hydrotherapy, wheelchair users and insufficient cognitive capacity.

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THE BENEFITS OF THE HYDROCAPOEIRA FOR THE PATIENTS NEUROLOGICAL
ABSTRACT:

By using water it is possible to use the physical and physiological effects to treat neurological patients that represent motorical difficulties. The aquatic activities promote flexibility, strength, balance, resist, coordination and also bring cardio-respiratory benefits. Hydrocapoeira is the introduction of Capoeira in water that comes along with the objective to surpass the resistance of the water. The objective of this study is to examine the influence of Hidrocapoeira on the balance and quality of life of neurological patients. Participants were one therapeutic group, the six neurological patients (1 encephalopaty , 3 head injury , 1 stroke , 1 distonia). The study took place at the Policlinica of the Centro Universitário Adventista de São Paulo (UNASP) during a period of four months, twice a week with each a fourtyfive minutes therapy session. To calculate the parameters it was being used a questionary of quality of life (SF-36) followed by a balance test (Scale de Berg). After four months of therapy results showed statistically significant improvement in quality of life and balance. The group of patients showed is 45,87% improvement in the fall-index of the balance test. The assessment of quality of life 25,87% is functional capacity; 27,27% is physical aspects; 66,75% is emotional aspects; 19,00% general state of health, 53,85% is vitality; 58,73% is social aspects; 18,45% is mental Health and 21,40 is pain, on the patient group. It may be concluded that the simultaneous movements of Hydrocapoeira provide benefit for these neurological patients, both in balance and quality of life. KEY-WORDS: Hydrotherapy, Capoeira, Balance, Quality of life

LES BÉNÉFICES DE L'*HIDROCAPOEIRA* POUR LES PATIENTS NEUROLOGIQUES
RESUME:

À travers l'eau nous pouvons utiliser les proprietés et les effets physiques et physiologiques en vue du traitement aproprié de patients soufrant des maladies neurologiques, qui présentent des diverses difficultés motrices. Ces activités hidrauliques favorisent la fléxibilité, force, équilibre, resistance, coordination et amelioration cardio-respiratoire. L'*hidrocapoeira* est l'implantation de la *capoeira* dans l'eau où on peut vaincre la resistance du liquide. L'objectif de ce travail fut évaluer l'influence de l'*hidrocapeira* dans l'équilibre des patients neurologiques et dans leur qualité de vie. Un groupe de physiotherapie a été formé par six patients neurologiques de la Policlinica de l'Université UNASP de São Paulo (un avec encephalopatie chronique non-progressive, trois avec traumatisme crâne-encephalique, un avec accident vasculaire cérébral, un avec dystonie musculaire) ayant l'âge moyenne de 26,16 ans, subissant deux sections de thérapie de quarante cinq minutes par semaine. Pour l'évaluation, le questionnaire qui mésure la qualité de vie (SF-36) a été apliqué selon l'évaluation d'équilibre (Échelle de Berg) qui mésure l'index de chute. Les questionnaires furent appliqués au début et à la fin de l'étude. Après quatre mois de thérapie, une amélioration statistiquement importante fut obtenue par rapport à l'équilibre et à la qualité de vie. Aprés les thérapies, le groupe d'étude a obtenu une amélioration dans l'index de chute de 45,87% en équilibre. Par rapport à la qualité de vie, on constaté une évolution de 58,73% dans les aspects sociaux; 25,87% dans la capacité fonctionnelle ; 27,27% dnas les aspects physiques ; 66,75% dnas l'aspect émotionnel ; 19,00% dans l'état géeral de santé ; 53,85% dans la vitalité ; 18,45% dans la santé mentale ; et 21,40% dans la douleur. On peut conclure que le mouvement simultané de l'*hidrocapoeira* a offert des avantages d'équilibre et de qualité de vie pour ces patients neurologiques. MOTS CLES: Hydrothérapie, *Capoeira*, Équilibre, Qualité de Vie.

LOS BENEFICIOS DE LA HIDROCAPOERA PARA PACIENTES CON ENFERMEDADES NEUROLÓGICAS.
RESUMEN:

A través del agua podemos utilizar las diferentes propiedades, efectos físicos y fisiológicos para hacer un tratamiento adecuado para pacientes portadores de deficiencias neurológicas, los cuales sufren múltiples dificultades motoras. Las actividades acuáticas, promueven mayor flexibilidad, fuerza, equilibrio, resistencia, coordinación y una notable mejora cardiorrespiratoria. La Hidrocapoera es la inserción de la capoera en el agua, donde se puede vencer la resistencia que el medio acuático promueve.

La finalidad de este trabajo es evaluar el equilibrio de pacientes con problemas neurológicos y la influencia de la hidrocapoera en su calidad de vida.

Fue creado un grupo de terapia, con seis integrantes con enfermedades neurológicas (uno con encefalopatía crónica no progresiva, 3 con traumatismo craneal encefálico, 1 con accidente vascular cerebral y uno con distonía muscular). La edad promedio de los pacientes atendidos en la policlínica de la universidad UNASP, es de 26,16 años. Durante un periodo de cuatro meses, con dos sesiones durante la semana de 45 minutos de terapia y ejercicios. Para la evaluación, se empleo el cuestionario de calidad de vida (SF-36) seguido de la tasación de equilibrio (escala de berg), que estima de queda. Los cuestionarios fueron aplicados en el inicio y en el término del estudio. Después de cuatro meses de terapia, se encontró una mejoría estadísticamente significativa en relación al índice de queda que es de 45,87%. En relación a la calidad de vida del grupo, fue observado una evolución de 58,73%, en los aspectos sociales, 25,87% en la capacidad funcional, 27,27 % en los aspectos fisicos, 66,75% en el aspecto emocional, 19,00 % en el estado global de la salud, 53,85% en la capacidad vital, 18,45% en la salud mental, 21,40 % en la presencia de dolor. Se concluye que el movimiento simultaneo de la hidrocapoera, proporciono ventajas para nuestros pacientes con enfermedades neurológicas, en el equilibrio y en la calidad de vida.

PALABRAS CLAVES: Hidroterapia, Capoera, Equilibrio, calidad de vida.

OS BENEFICIOS DA HIDROCAPOEIRA PARA PACIENTES NEUROLÓGICOS
RESUMO:

Através da água podemos utilizar as propriedades e efeitos físicos e fisiológicos para um tratamento adequado de pacientes com doenças neurológicas, os quais apresentam diversas dificuldades motoras. Estas atividades na água promovem flexibilidade, força, equilíbrio, resistência, coordenação e melhoras cardiorespiratórias. A Hidrocapoeira é a implantação da capoeira na água onde se pode vencer a resistência que o meio aquático promove. A finalidade deste trabalho é avaliar o equilíbrio de pacientes neurológicos e a influência em sua qualidade de vida, através da hidrocapoeira. Foi realizado um grupo de terapia, sendo os integrantes seis pacientes neurológicos (1 com Encefalopatia crônica não progressiva, 3 com Traumatismo crânio encefálico, 1 com Acidente vascular cerebral, 1 com Distonia muscular), com média de idade de 26,16 anos na Policlínica da Universidade UNASP de São Paulo, em um período de quatro meses, com duas sessões na semana de quarenta e cinco minutos de terapia. Aplicou-se para a avaliação, o questionário de qualidade de vida (SF-36) seguido de avaliação de equilíbrio (Escala de Berg), que avalia o índice de queda. Os questionários foram aplicados no inicio e término do estudo. Após quatro meses de terapia, obtivemos melhora estatisticamente significante em relação ao índice de queda, em 45,87%. Em relação à qualidade de vida do grupo, foi observado a evolução em 58,73% nos aspectos sociais, 25,87% na capacidade funcional, 27,27% nos aspectos físicos, 66,75% no aspecto emocional, 19,00% no estado geral de saúde, 53,85% na vitalidade, 18,45% na saúde mental, 24,40% na dor. Conclui-se que o movimento simultâneo da hidrocapoeira proporcionou vantagens para estes pacientes neurológicos, no equilíbrio e na qualidade de vida.

PALAVRAS CHAVES: Hidroterapia, Capoeira, Equilíbrio, Qualidade de vida.