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Review Article

An overview on rehabilitation and therapeutic benefit of Aquatic Therapy

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Abstract

Aquatic therapy is a physical therapy that takes place in pool or other aquatic environment under the supervision of trained health care professionals. Water therapy has been used for thousands of years throughout the world. Aquatic therapy usually perform in fairly shallow pool. Water therapy is helpful for clients suffering from conditions like arthritis autism, chronic pain, balance disorder, idiopathic joint pain, depression etc. And it is also good for pregnancy women.

Keywords: Aquatic therapy, aquatic environment, health care professionals, fairly shallow pool.



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Introduction

Aquatic therapy is referred as exercise or treatment for physical fitness, relaxation and also for therapeutic benefits. Aquatic therapy is generally carried out in specialized temperature controlled pool or other aquatic environment. Usually performed under the supervision of well trained health care professionals [1].

History

In early 2400 BC people in Asia and Greek immersed themselves in water for religious and therapeutic purposes. By 1500 BC fever was treated

by water therapy. Ancient Greeks and Roman's used bath in hot springs in order to improve circulation and to promote relaxation. Japanese hot springs have medicinal effects for healing chronic pain, relieving constipation and to treat menstrual disorders. While Hippocrates recommended bathing in spring water to treat sickness [2].

Aquatic Therapy In India

NeuroGen Brain and institute is the 1st aquatic therapy center in India located in Mumbai. Some of the aquatic therapy centre in India are PG Neuro physiotherapy clinic in Madhapur (Telangana), Aquatic centre therapy in Maharashtra, Dr.Prachi

Shah Arora's Physiotherapy clinic and Aquatic center in Mumbai , Asian Physiotherapy & Research Institute in Surat (Gujarat) , Sparrc Institute in Chennai, Physio Mantra for kids in Bengaluru etc [3].

Techniques

Different techniques are used in aquatic therapy . These are some techniques which are used in aquatic therapy include Ai Chi developed by Jun Konno in year 1993 for relaxation and strengthening the body , Aqua Running it involves running or jogging in water useful for injured athletes and for low impact aerobic exercise , Bad Ragaz Ring method was designed in year 1930s by German physician for rehabilitation of neuro muscular function Burdenko method for flexibility, balance , coordination and strengthening the body, Halliwick concept was developed in year 1940s at Halliwick school girls for stability and balance , Watsu was developed in year 1980s by Harold Dull disorder to induce deep relaxation and to provide therapeutic effects [4].

Aquatic Therapy Performed By

Aquatic fitness will be performed by a professional having a certificate approved by AEC Aquatic Fitness Professional Certification (AFAC) State's it is performed by legally regulated medical professionals in a hospital's physiotherapy department [5].

Aquatic Therapy Pool

It is carried out in pool or any other aquatic environment. Temperature of pool should be maintained between 89 to 96 degrees for better relaxation effects . And cooler temperature 78 to 85 degrees will be less preferred than 96 degrees by most of the populations for effective results [6].

Accessories For Aquatic Therapy

Generally it includes water weights dumbbells of light weight made up of soft coated grips , pool noodle are useful while learning swimming , for exercise and for floating , resistance gloves aqua disc training for upper body, dynapad activate muscles , floating belts , floating collars or neck collars to keep head vertically above water , aqua jogging wet belt [7].

Cost for therapy

Cost of this aquatic therapy is at reasonable price for all categories of people . For about one sitting 5,539.21 rupees will be charged for aquatic therapy [8].

Age limit for aquatic therapy

There is no specific age limit for aquatic therapy people of all ages can enjoy water therapy benefits, including children with special needs and senior citizens [9].

Therapeutic uses of aquatic therapy

Main goal of aquatic therapy is to provide muscle relaxation by stimulating blood flow positively, to improve or increase joint motion , to improve circulation, and relieve pain by reducing peripheral oedema and block nociception by acting on thermal receptors and mechanoreceptors . Aquatic therapy used to treat conditions like Orthopaedic disorders, post surgical cases , sports rehabilitation , arthritis, impaired balance disorder, back pain, chronic pain etc [1,2,10].

Aquatic therapy in paralysis

Aquatic therapy as a treatment it promotes the recovery of paralyzed patients to normal condition. It can be done by using under water treadmill which allows the individual to practice in a gait pattern that is closely associated with the land therapy. It can be monitored by using under water cameras which help patient and trainer to monitor without looking down in water. Deep tissue massage post therapy, strips help to reduce lactic acid from muscle in their amount of sweetness and promote fast recovery [11].

Aquatic therapy in rheumatoid arthritis

When a person walking on water they get tired when compared to walking on land . Because water creates resistance which will strengthen the muscles And patient feel better when there are in water . They have less pain in water when compared to land therapy. Properties such as warm i.e 35-36 degree , hydrostatic 3, buoyancy, viscosity helps patients to move people freely and to reduce pain and pressure on joints [12].

Aquatic therapy in stroke

Stroke occurs due to depletion of oxygen in brain. It is of 2 types Hemorrhagic stroke and Ischemic stroke while hemorrhagic stroke is due to blood vessel rupturing or bursting in brain which lead to

leakage. Where is ischemic stroke result from emboli or thrombus that lead to brain tissue deprived of oxygen and nutrients. Immunization in water will decrease body weight of an individual upto 90%. The water viscosity helps the person to move slowly, then water provide extra support for body to work on balance and coordinate freely in stroke patients. By standing in water due to increased pressure lead to heart to work harder to move blocks there by increase heart fitness [12-13].

Aquatic therapy in children s

If children's don't have hydrophobia or fear of water they can have fun .They will be no stress on children's body in water as it provides a safer environment for children during therapy sessions .It helps children to live happier and more functional, it also helps to make them more potential. Aquatic therapy have many benefits including confidence, helping with speech and building their muscle stronger [14].

Benefits of aquatic therapy in children

It increases strength and range of motion in children suffering from an injury such as broken leg, their ability to move joints freely is highly limited due to swelling and lack of strength in their muscle . By applying aquatic therapy it helps on recovery of child due to warm water that helps in strengthen the joints by making them easier to lift leg up and down while performing exercise. Improves respiration and control breath if child is suffering from speech issues, aquatic therapy will be more beneficial by performing exercise such as holding their breath under water while raising their arm up and down can help. So resistance of water will help to improve proper breathing control for speaking. Improves social skill and self confidence - aquatic therapy will improve child's motor skill , decrease social anxiety and confidence by performing exercise and games in pool [15].

Aquatic therapy in geriatrics

Staying active is very essential for aging adults due to serious health conditions like circulatory problems, respiratory problems and joint diseases like arthritis make them difficult to do exercise. While aquatic therapy will provide some benefits to aging adults [16].

Benefits

Natural resistance - water provide natural resistance which help to make muscles work harder than the exercise performed on land . Build strength and balance - regular water workout also helps to build strength and provide balance in aging adult .worsening vision and limbs cause them to lose coordination which increase risk of falling ,engaging them to aquatic therapy will combat their lost balance making quick legs and arm movements in water there by helps to build and strengthen their muscle Hydrostatic pressure - it make fluid molecules to exert force on body when immersed in water and offer many benefits like decreasing swelling, pain increase range of motion in aged adults. It also has ability to decrease patients blood pooling and increase circulation and venous return. Improve circulation - by doing water jogging, swimming or by doing aquatic aerobic exercises in water help them to get their heart rate to up, burn fat and improve cardiovascular health. Aerobic exercise specifically helps lungs and heart to utilize and deliver oxygen more effectively ther by reduce risk of heart attack and other health issues.

Reduce joint pain - Aquatic therapy will reduce impact on joint and offer gentle way to exercise. Many geriatrics are facing arthritis and other conditions that affect joints, where aquatic therapy helps to release endorphins which is a natural pain killer it also helps to reduce joint pain as well. Improve mood and reduce anxiety - it can be done by aquatic therapy due to free moving within water which elevate mood and which have relaxation effects [1,3,6,17-19].

Contraindications of aquatic therapy

Aquatic therapy will not be suggested for patients with seizures disorders , open wounds or non healing ulcers , skin allergies, extreme fear of water, cardiac failure, unstable angina, abnormal B.P ,tracheotomy etc [20].

Side effects

Apartfromits usesaquatictherapyalso have some major side effectslike fatigue, osin in both musclesand joints , muscle soreness, muscle fatigue etc [20-21].

Conclusion

Aquatic therapy is effective treatment for conditions like rheumatoid arthritis, chronic pain ,balance disorder , depression. Aquatic therapy have less side

effects when compared to other treatment. And this treatment is at affordable price so every one can get treatment. No need of huge equipment for treatment. All age group people can get treated with fun.

Author Contribution

All authors Contributed equally.

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