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UNDER WATER EXERCISES-AN EMERGING TREND

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ABSTRACT

Aquatic therapy refers to underwater exercises and methods done in water for fitness, freshness and therapeutic purposes. Aquatic therapy incorporates Aqua exercises, Aqua body workout, pool therapy, hydrotherapy. Aqua workout encompass aqua aerobics, aqua tango and aqua yoga. An aquatic exercise improves tissue oxygenation, strengthens muscles and improves cardio-respiratory conditioning. Aqua exercises are more effective and safe in pregnancy, hypertension, cardiovascular diseases, diabetes and obesity. Hydrotherapy reduces stress and decreases pressure on painful joints. It can be an adjunct to treatment of orthopedic disorders like backache, spine injuries, muscle tear, osteoarthritis, muscle strain, rheumatoid arthritis and musculoskeletal injuries in athletes. This is superior to land exercises as person feels weightless inside water and comes out fresh inspite of burning lots of calories. But under water exercises are contraindicated in cardiac failure, hydrophobics and infections. Aqua fitness can be “should and must” for exercise enthusiasts, elderly, athletes orthopedic patients. These are in limelight because of unhealthy dietary habits and rampant life style diseases in the modern society. This is a delightful and gratifying natural massage which freshens the mind and can prove to be an effective stress buster.

Key Words: Aquatic exercises, Aquatic therapy, Aquafitness.

INTRODUCTION

Aquatic fitness is gaining a lot of attention these days. Aquatic therapy is synonymous with water exercise. Aqua medicine provides welcoming effect on health status of individuals. Aquatic therapy refers to the water based exercises and methods done in water for fitness, freshness and therapeutic purposes. Aquatic therapy encapsulates the movements performed by a person when partially or fully submerged in water by using the mechanical and thermal properties of water. Aquatic therapy incorporates Aqua exercises, Aqua body workout, pool therapy, hydrotherapy. Hydrotherapy involves spa therapy, whirlpool and hydrokinesiotherapy. Immersion in warm water with turbulent flow is spa therapy and exposure to pressurized water is whirlpool. Hydrokinesiotherapy denotes the movements of the body done under water. Aqua jogging or aqua running is drawing attention these days. It refers to the sport activity performed in swimming pool. The jogger moves in upright manner in the water.

This activity is employed to minimize the stress and impact of injuries in tri-athletes during their training period. This is done in deep water and is truly an aerobic activity. Aquatic physiotherapy which means physiotherapy in water using the unique characteristics of water. Aquatic physiotherapy is done under guidance of a trained physiotherapist and have role in the treatment of various diseases. Aqua workouts also require deliberate consideration which freshens up the body and mind in scorching summer. They encompass aqua aerobics, aqua tango and aqua yoga. Aqua aerobics which are the eye openers in today's world, comprehend pool fun workout where goal is to relax and to burn out the extra kilos. They aim to provide an enjoyable surrounding with music.

Aqua tango is a meditative, beautiful and fun act done by 2 people where they jump, lift, balance each other, cuddle and walk together. Aqua yoga takes into account the kriya yoga asanas in water especially for physically disabled and injured. Aqua exercises under water with your partner, treadmill exercise and water walk are becoming focus of attention. About 60% of our body is comprised of water, hence exercising in water brings our body in contact with or more closer to the internal environment.

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Thermal stability homeostasize the internal environment. Buoyancy is the inherent property of water. Buoyancy counter acts gravity and supports body. It is the tendency of being weightless and to float in water. It is the force which a fluid exerts on a floating body because of which the gravitational pull is opposed and equates with the density of body. Person experiences a sense of floatation and weightlessness while exercising or doing some activity in water. Thickness of water is 12-14 times as that of air and the impact is felt with more intensity by the same movement. Density of water is 800 times as compared to air so water exerts pressure and provides resistance thereby improving blood flow, cardiovascular status and improving lung power.

Hydrostatic pressure exerted by water improves respiratory function by acting as a massage and hence boosts up cardio-respiratory function (synergism). Water supports our body thereby reducing heart rate and causing cardio-respiratory conditioning [1]. Aquatic exercise improves oxygenation of tissues. Muscles get strengthened and pumping activity of heart to muscles becomes more efficient. Aqua exercises are more effective and safe in some situations as in pregnancy [2], hypertension, cardiovascular diseases, diabetes and obesity. Hydrotherapy pampers our heart, strengthens the weak muscles, helps the body and mind in coping up with stress and decreases the pressure on painful joints. Therefore, it can be an adjunct to the treatment of orthopedic disorders such as low backache, spine injuries, muscle tear, osteoarthritis, muscle strain, sprain, rheumatoid arthritis and many more.

Freshness is the key of aqua fitness. Body posture, balance stability and coordination gets improved. Under water exercise poses less stress on axial skeleton and joints. For orthopedic diseases warm water is more effective by providing a cushion on joints. Thighs get thinned out and hips get trimmed out by these exercises leading to shaping up the body. In addition it increases body flexibility. This therapy helps in treating musculoskeletal injuries in athletes and improves bone strength.

Water provides a relaxing effect and slackens the neural barriers which stress out the mind. Stress and anxiety levels are reduced. This is brought by the influence of aquatic exercises on autonomic nervous system (ANS). ANS has two components : sympathetic nervous system and parasympathetic nervous system. Sympathetic system is ergotropic and concerned with 3F's i.e fight, fright and flight reactions and parasympathetic is trophotropic and concerned with relaxation. Increased sympathetic discharge lands up a person in stress and anxiety. This autonomic imbalance is managed by water exercise by increasing parasympathetic outflow. Healing is also positively affected by pool exercise. Lymphatic circulation also gets improved. Pool training is quite beneficial in pain management. Pain in joints which makes the person

disabled can get significantly improved by regular pool exercises thus reducing further progression of pain and inflammation. Obese people find this therapy more convenient as weight felt is less in water than land based exercise [3]. Exercising under water reduces chances of trivial injuries caused by friction because of striking of heels on land surface. Instead of splashing out in gyms on heavy machines or working out in community pools aqua therapy is an efficient fat burner. Person comes out fresh from pool, not tired inspite of burning lots of calories as compared to land based exercises. Because of the above mentioned benefits it is preferable over land exercises.

Spa therapy is also in spot light due to above mentioned beneficial effects of aqua exercises. Exercises like knee to chest exercise, leg raise exercise, pool walk, quadruped exercise are usually performed well with ease. Warm water helps in treating arthritis, but care should be taken not to overheat the water especially in case of children and old age. Various postural exercises include-dorsiflexion and plantar flexion , thumb circumduction, flexion extension of finger, knee, hip, elbow, wrist, thumb opposition, abduction, knee extension, stretching calf muscle stretch, arm circle, hip adduction, abduction, walking under water, swinging arms while walk. Main limitations of aqua training include temperature regulation, to deal with oxygen lack , psychology and anxiety of people regarding the procedure. Temperature of water needs to be maintained in the water tank/pool. Ideal temperature should be 90-94°F because this temperature is same as of bath water which aids in improving the blood circulation.

Person needs to learn skills to perform under water rather than land based exercise. It requires attention, co-operation, flexibility and focus. Also water has property of refraction i.e on passing from one medium to another medium light rays undergo deviation from their path and there is an angle of refraction produced when incident rays enter and refractive rays leave the medium. So the neighbouring objects around the person and the instructor demonstrating the procedure may not be well perceived. Along with the above limitations there are some psychological aspects also which can be encountered often. People may face fear of drowning or going deep inside the water. Oxygen debt is a serious problem affecting cardio-respiratory synergism and hampering tissue oxygenation also. So people are advised to wear face masks, water shoes, water gloves, paddles and goggles. These exercises are contraindicated in some conditions like hyperthermia, infections, cardiac failure, hydrophobia.

CONCLUSION

Regular aquatic exercise therapy can be an effective and safe tool in weight management. Due to the above mentioned positive effects of aqua fitness on health status of people this can be "should and must" for those who are enthusiastic for exercise, elderly persons,

orthopedic patients. Athletic persons are significantly benefited in improving their range of motion and increasing muscle strength, overcoming joint disability. Splash in water leading to fat burning is really an innovative health concept for modern society with

unhealthy dietary habits, sedentary life style and rampant obesity. It can be a boon for seniors to age gracefully. This is an amusing, pleasant, delightful and gratifying natural massage which unwinds the tensions and can prove to be a stress buster.

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