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EFFECT OF WATSU WATER RELAXATION TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES AMONG SCHOOL LEVEL SWIMMERS

Physical Education

Mr. Jithin Thomas Abraham Assistant Professor in Physical Education, Henry Baker College Melukavu, Kerala

Mr. Adarsh M* Assistant Professor in Physical Education, Mary Matha Arts and Science College Mananthavady, Kerala *Corresponding Author

ABSTRACT

The purpose of the study was to find out the Effect of "Watsu" water relaxation training on selected Physiological variables among school level swimmers. The experimental design of this study was random group design. For this purpose (N=20) twenty school level swimmers of Kannur university swimming coaching centre Mangattuparamba campus were selected. The subjects were divided in to two groups of (n=10) ten each namely watsu water relaxation training group (WRT) and control group (CG). The watsu water relaxation training group underwent 7 weeks of relaxation training program on 3 days per week.

The dependent variables selected for the study were physiological variables namely heart rate, blood pressure and body temperature. The independent variable selected for the study was watsu water relaxation training. The dependent variables selected were tested just before the training and quickly after the training for both groups using standardize equipments. After the data collection the data was statistically analyzed by applying descriptive statistics, dependant t test and analysis of covariance by using statistical package for social sciences (SPSS). The level of significant was fixed at 0.05 levels.

The result of the study indicated that there was a significant acute and also long term effect of watsu water relaxation training on the selected psychological variables.

KEYWORDS

INTRODUCTION

Water massage therapy can be a great way for the people to experience the therapeutic effects of water immersion. When a body is wholly or partially immersed in a fluid, it experience an up thrust that is equal in force to the weight of fluid it displaces. The buoyant thrusts temporarily take away the pull of gravity so that there is a dramatic decrease in the weight-bearing forces on all joints and inter vertebral discs. When water buoyancy is combined with its soothing feel on the skin and a specific temperature. It can be therapeutic in number of ways..

Watsu is a form of aquatic bodywork used for deep relaxation and passive aquatic therapy. Watsu is characterized by one-on-one sessions in which a practitioner or therapist gently cradles, moves, stretches, and massages a receiver in chest-deep warm water. It is originally developed by Harold Dull at Harbin Hot Springs, California in the early 1980s, combines elements of muscle stretching, joint mobilization, massage, Shiatsu, and dance, performed in chest-deep warm water (around 35°C = 95°F). The receiver is continuously supported by a practitioner or therapist while being back floated, rhythmically cradled, moved, stretched, and massaged.

During a watsu session, the recipient's get some benefits such as depth of respiration increases, muscle tone decreases, and recipients report a deep state of relaxation. Robert Scaer suggested that deep relaxation of watsu balances the autonomic nervous system (ANS), decreasing sympathetic response and increasing parasympathetic response, with far-reaching benefits. Compressive forces of hydrostatic pressure combine with deep relaxation to enhance functioning of the lymphatic system and reduce swelling in cases of edema. Combined effects of relaxation, warm water, and gentle movement decreases muscle spasm, provides pain relief, improves soft tissue mobility, and increases range of motion. The rhythmic rocking motions combined with repeated trunk rotation and elongation relaxes muscles and improves mobility.

METHODOLOGY

To facilitate the study 20 (N=20) school level swimmers are selected as subjects. Their age is ranged from 10-14 years. The subjects are selected from university swimming coaching centre, Mangattuparamba, Kannur, Kerala as subjects for the study. They will be randomly assigned to watsu – water Relaxation Training group WRT (n=10) and Control Group (CG (n=10). By considering the various scientific literature pertaining to the selected physiological variables and talking into consideration the feasibility criteria, availability of testing equipment's, relevance and consultancy of supervisor, the variables are selected for the study are heart rate, blood pressure, body temperature. The tests used to measure are sphygmomanometer and stethoscope is used for blood pressure, stopwatch and manual counting is used for heart rate assessment, and thermometer is used for measuring body temperature. Descriptive statistics is used to understand the nature and spread of the data, to understand the difference between the pre and post test values of the subjects dependent t- test was conducted and to measure the effects of the training program on the subject by controlling the initial difference analysis of covariance was computed.

RESULTS AND FINDINGS

Table.1 Mean difference on heart rate of control and experimental group

HEART RATE		N	MEAN	SD	t	Sig. (2 tailed)
EXPERIMENTAL GROUP	PRE	10	165.7	10.08	30.863	.000
	POST	10	75	3.80		
CONTROL GROUP	PRE	10	170.4	9.39		
	POST	10	93.8	5.99		

The above table indicates that, there was a significant difference between the pre and and post test performance on heart rate of experimental group, since the calculated t value of 30.863 is higher than the table value of 1.734 at 0.05 level of significance.

Table.2 Analysis of covariance Tests of Between-Subjects Effects

Dependent Variable: Heart rate					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	133.905a	2	66.952	.675	.522
Intercept	2313.992	1	2313.992	23.318	.000
Pre	23.455	1	23.455	.236	.000
Group	108.783	1	108.783	1.096	.000
Error	1687.045	17	99.238		
Total	566637.000	20			
Corrected Total	1820.950	19			

There is a significant deference in post test values of heart rate (F, (1,17) = 1.096, P- value =.000) among experimental and control group.

Table.3 Mean difference on systolic and diastolic blood pressure of control and experimental group

Blood Pressure		N		Systolic (Blood Pressure)				Daistolic (Blood Pressure)		
			MEAN	SD	Sig (2tailed)	T	MEAN	SD	Sig (2 tailed)	t
Experimental Group	PRE	10	164	10.90	.000	16.735	76.1	2.07	.000	10.824
	POST	10	121.6	3.80			68.2	1.81		
Control Group	PRE	10	168.8	8.06			77.9	0.99		
	POST	10	139.6	4.78			72.5	1.26		

The above table indicates that, there was a significant difference between the pre and and post test score on systolic blood pressure of experimental as well as control group, since the calculated t value of 16.335 and 10.824 respectively these two values are greater than the table value of 1.734 at 0.05 level of significance.

Table.8 Analysis of co variance tests of between subjects

Dependent variable: systolic blood pressure

Source	Type 111 some of squares	Df	Mean squares	f	sig
Corrected model	1806.856	2	903.428	98.486	000
Intercept	332.635	1	332.635	36.262	000
B.P pre	186.856	1	186.856	20.370	000
Grp	1255.388	1	1255.388	136.854	000

There is significant different in post test values of systolic blood pressure (F(1,17)=136.854,p-value=000) among experimental and controlled group

Table.4 Analysis of co variance tests of between subjects

Dependent variable: diastolic blood pressure

Source	Type 111 some of squares	Df	Mean squares	f	sig
Corrected model	108.042	2	54.021	32.214	000
Intercept	5.605	1	5.605	3.342	000
b.p pre	15.592	1	15.592	9.298	000
Grp	39.97	1	39.979	23.841	000

There is significant difference in post tests values of diastolic blood pressure (F (1,17) = 23.841, P- value = 000) among experimental and control group.

Table.5 Mean difference on body temperature of control and Experimental group

BODY TEMPERATURE		N	MEAN	SD	t	Sig.(2 tailed)
EXPERIMENTAL GROUP	PRE	10	97.76	0.53	11.342	.000
	POST	10	96.65	0.38		
CONTROL GROUP	PRE	10	97.83	0.21		
	POST	10	97.2	015		

The above table indicates that, there was a significant difference between the pre and post test performance on body temperature of experimental group, since the calculated t value of 11.342 is higher than the table value of 1.734 at 0.05 level of significance.

Table.6 Analysis of co-variance Tests of between subjects effects

Dependent variable body temperature post

Source	Type 111 some of squares	df	Mean squares	f	sig
Corrected model	2.877	2	1.438	34.682	000
Intercept	644	1	644	15.535	001
B.T pre	829	1	829	19.938	000
Grp	1.804	1	1.804	43.494	000

REFERENCES

1. ANDREW J . (2010). Comprehensive Aquatic Therapy. Washington: Buttr worth hinemann.
2. Brody, L. T. (2009). Aquatic Exercise for Rehabilitation and Trainig. America: pride .
3. Dull, H. (2004). Watsu: Freeing the Body in Water. California: Trafford Publishing.
4. Lazarus, J. (2000). Stress Relif & Relaxation Techniques. Germany: McGraw Hill Professional.
5. Schitter, A. M. (2015). Effects of Passive Hydro Therapy Watsu(water siatsu) In the third Trimester Of Pregnncy: results of a controled pilot study. complementary and alternative medicine , 16-39.
6. Andreasen.AK. The effect of Excersice Therapy on Fatigue in multiple Sclerosis
7. 1041-1054. 2011
8. Broach. E. The effect of Aquatic Therapy on Strength of Adults with multiple Sclerosis 37(3),224, 2003
9. Douris. P. The Effect of land and aquatic excersice on balance scores in older adults 3-6. 2003
10. Dimitrijevic.L. The effect of Aquatic intervention on the Gross motor Function and Aquatic skills in Children with cerbral Palsy 167-174. 2012
11. Hinman. R. Aquatic Physical Therapy for Hip and Knee Osteoarthritis: Results of a single blind randomized controled trail. 32-43. 2007
12. Liedes.T. Multycenter randomised controled trail compairing early versus late aquatic therapy after total hip or knee arthroplasty 192-199. 2012
13. Schitter M . et,al. Effects of Passive Hydro Therapy Watsu (water shiatsu) in the third trimester of Pregnancy: Results of a controled Piolt study, 13-26. 2015
14. Marinho M. et al, The effect of Aquatic Therapy on Mobility of Individuals with Neurological Diseases : A systamatic Review. 741-751. 2015
15. Morris .M. Aquatic Rehabilitation For The Treatment of Neurological Disorders. 297-308. 1994
16. Myers .M. Aquatic Therapy and Alzhemers disease, 36-41. 2013.
17. Vusch.A. Excersice therapy for fibromalagia, 15-19. 2011
18. Seung C.C Watsu approach for Improving Spasticitiy and Ambulatory Function in Hemiparetic Patients with Stroke. 128-136. 2009
19. Thein .B.Aquatic Execrcise for Rehabilitation and Training. 2009
20. Koog. D. The effect of aquatic therapy on Postral balance and muscle strength in stroke survivors- a randomised controled pilot trial. 966-976, 2008
21. Maczkowiak S. Watsu – The Effect of Differently Accentuated Movment Therapy Intervension On Clinically Depressive patients. 58-64. 2007
22. McManus. B. The effect of Aquatic therapy on Functiona Mobility of Infants and Toddlers in Early intervension . 275-282. 2007
23. Kelly. M. Aquatic exercise for children with cerbral palsy 838-842. 2005.