RECENT TRENDS AND CONCEPTS IN PHYSICAL EDUCATION AND SPORTS – A STUDY

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Abstract

This paper seeks to understand the recent trends and concepts in physical education ands sports of youths these days are eating more junk food and moving less. The result: overweight, unfit children. To counter the declining fitness trend, many schools and districts have taken a closer look at their physical education (PE) programs. **Physical education** is the instruction of physical exercise in schools and matters more today than ever before.

Physical education programs are recognizing the academic benefits of quality fitness programs. Exercise increases oxygen flow to the brain, thereby increasing cognitive skills. It also increases neurotransmission in the brain, or the connection of **neurons**, also known as brain cells. Strengthening these connections means that the brain is remembering more efficiently. Exercise also releases chemicals in the body known to enhance mood, regulate impulsivity, and decrease fidgeting. All the more reason to up the game in PE.

With the opportunity to help turn around declining fitness in children, schools and PE curriculum programs have made drastic changes. Team sports and fun activities that were once the norm are being elbowed out by more intense and direct physical activity focusing on overall health. How can PE time make a difference? Let's take a look at some trends that matter to children's health.

shows that the game specific training improved the maximum strength. The difference between right and left hand on maximum strength was insignificant. Hence, it was concluded that game specific dextrality training may be given to improve the dexterous (use of hands) level and handball playing ability.

***Key Words*: Physical Training, Strength, Dexterous, Handball.**

Introduction

Studies detected in initial searches were screened using the following inclusion criteria: (1) using elite or experienced team-handball players as subjects, (2) analyzing performance that were similar to competition, (3) full length texts had to be available, (4) if similar tests or analyses were used in several studies we used only those studies that were close to the first two inclusion criteria, and (5) total numbers of studies per sub-category were limited to seven studies. Pupils from primary school through junior colleges are required to have 2 hours of PE every week, except during examination seasons. Pupils are able to play games like football, badminton, captain's ball, and basketball during most sessions. Unorthodox sports such as touch ball, fencing, and skateboarding are occasionally played. In

more prestigious secondary schools and in junior colleges, sports such as golf, tennis, shooting, and squash are played. A compulsory fitness exam, NAPFA, is conducted in every school once every year to assess the physical fitness of the pupils. Pupils are given a series of fitness tests (Pull-ups/Inclined pull-ups for girls, standing broad jump, sit-ups, sit-and-reach and 1.6 km for primary [10-12 year-olds]/2.4 km for secondary and junior college levels [13-18 year-olds]). Students are graded by gold, silver, bronze or fail. NAPFA for preenlistees serves as an indicator for an additional 2 months in the country's compulsory national service if they attain bronze or fail. Pupils from primary schools to secondary schools are expected to do 2 periods or 1 hour of PE throughout the year except a week before examination.

Objectives of the study: **This paper seeks to understand the recent trends and concepts in physical education ands sports of youths.**

In most secondary schools, games like badminton, sepak takraw, football, basketball and tennis are available. Pupils are allowed to bring their own sports equipment to the school with the authorization of the teacher. In most secondary schools, physical exams are rarely done, but schools record pupils' height, weight and number of pushups they can do. Students ranging from Kindergarten to High School have PE integrated with their curriculum. Kindergarten until Grade 3 of Elementary students have gymnastics, starting from Grade 4 of Elementary School, students will be introduced into traditional martial arts Pencak Silat and some team games such as badminton, tennis, soccer, futsal, rounders, basketball, etc. Starting from Junior High School, Both gender are separated during PE class. PE find its place in extracurricular forms, where students can specialize themself in one kind of sports they choose. Sport Festival can be held during vacuum period, usually after examination. At this time students can compete each other by bringing own class' flag. Some universities such as ITB include PE in curriculum for freshmen. Many games such as Basketball, volleyball, cricket, tennis, badminton, kho kho, kabaddi etc are played. Several drills and physical training are taught. Current trends in school PE and sports Physical education trends have developed recently to incorporate a greater variety of activities besides typical sports. Introducing students to activities like bowling, walking or hiking, or Frisbee at an early age can help students develop good activity habits that will carry over into adulthood. Some teachers have even begun to incorporate stress-reduction techniques such as yoga, deep-breathing and tai chi. Tai chi, an ancient martial arts form focused on slow meditative movements is a relaxation activity with many benefits for students. Studies have shown that tai chi enhances muscular strength and endurance, cardiovascular endurance, and provides many other physical benefits. [Which?] It also provides psychological benefits such as improving general mental health, concentration, awareness and positive mood. It can be taught to any age student with little or no equipment making it ideal for mixed ability and age classes. Tai chi can easily be incorporated into a holistic learning body and mind unit. Teaching non-traditional sports to students may also provide the necessary motivation for students to increase their activity, and can help students learn about different cultures. For example, while teaching a unit about lacrosse in, for example, the South western United States, students can also learn about the Native American cultures of the North eastern United States and Eastern Canada, where lacrosse originated. Teaching non-traditional (or non-native) sports provides a great opportunity to integrate

academic concepts from other subjects as well (social studies from the example above), which may now be required of many P.E. teachers. The four aspects of P.E. are physical, mental, social, and emotional. Another trend is the incorporation of health and nutrition to the physical education curriculum. The Child Nutrition and WIC Reauthorization Act of 2004 required that all school districts with a federally funded school meal program develop wellness policies that address nutrition and physical activity. While teaching students sports and movement skills, P.E. teachers are now incorporating short health and nutrition lessons into the curriculum. This is more prevalent at the elementary school level, where students do not have a specific Health class. Recently most elementary schools have specific health classes for students as well as physical education class. With the recent outbreaks of diseases such as swine flu, school districts are making it mandatory for students to learn about practicing good hygiene along with other health topics. Today many states require Physical Education teachers to be certified to teach Health courses. Many colleges and Universities offer both Physical Education and Health as one certification. This push towards health education is beginning in the intermediate level, including lessons on bullying, self-esteem and stress and anger management. Incorporating local indigenous knowledge into physical education can lead to many meaningful experiences and a way of learning about other cultures. For example by incorporating traditional knowledge from varying indigenous groups from across Canada students can be exposed to a many concepts such as holistic learning and the medicine wheel. A unit could be focused on connecting to a place or feeling while outdoors, participating in traditional games, or outdoor environmental education. These types of lesson can easily be integrated into other parts of the curriculum and give Aboriginal students a chance to incorporate their culture in the local school community Studies have been done in how physical education can help improve academic achievement. In a 2007 article, researchers found a profound gain in student's English Artsstandardized testing students who had 56 hours of physical education in a year compared to like students who had 28 hours of physical education a year. In Brazil, the physical education curriculum is designed to allow school pupils a full range of modern opportunities, half a dozens of sports. They said they offer martial artsclasses, like wrestling in the United States, and Pencak Silat in France, Indonesia, and Malaysia, are taught to teach children self-defence and to feel good about themselves. The physical education curriculum is designed to allow students to experience at least a minimum exposure to the following categories of activities: aquatics, conditioning activities, gymnastics, individual/dual sports, team sports, rhythms, and dance. In these areas, a planned sequence of learning experiences is designed to support a progression of student development. This allows kids through 6th grade to be introduced to sports, fitness, and teamwork in order to be better prepared for the middle and high school age. In 1975, the United States House of Representatives voted to require school physical education classes include both genders. Some high school and some middle school PE classes are single-sex. Requiring individuals to participate in physical education activities, such as dodge ball, flag football, and other competitive sports remains a controversial subject because of the social impact these have cases physical education programs have been cut. Future for physical education Physical education should be individualized. One size does not fit all. This is extremely challenging, but with creative tools like Physical Best, Fitness for Life, and Fitness gram, physical educators are becoming more like personal trainers than coaches. We should focus on activity and nutrition leading to good health and wellness. If we can’t do everything, we need to at least do this. Therefore, while playing age appropriate games is important, our emphasis needs to be on building lifelong skills and attitudes. Being active and eating well is vital at any age, but it becomes

a matter of life or death as we get older. We can't put fitness in the bank and use it later; we have to keep active and eating well to maintain the benefits. We also need to emphasize participation and stop the trend toward becoming a nation of spectators, with a few highly skilled athletes playing and everyone else watching. All students should be provided opportunities to both cooperate and compete in physical activities. Both are important life skills, and both can be fun. Our students should graduate with an understanding of the key principles of fitness and nutrition. They should be informed consumers of activity, nutrition, and wellness and be ready to assume self-responsibility for their own health through prevention. And, please, let's make sure our K-12 schools provide a logical scope and sequence—let's teach articulated curriculums and not just bump the volleyball for 13 straight years. Finally, we have to embrace technology to effectively communicate our message and get people moving. New innovations can help kids become physically active while playing video games and provide motivation for those who otherwise wouldn't be active. The future of physical education: we must change now The following are some recommendations for change which we can make NOW: 1. We must adopt the philosophy that physical education is- for all people, regardless of ability. We must recognize that skills and fitness are important only as they help students to become fully functioning healthy individuals. 2. We must put every effort into requiring elementary school physical education in every school (with a qualified physical education teacher). If physical education is important at any level it is most important here. The 1990 goals for the nation support this contention. We must become activists on this issue. 3. At the middle, junior, and senior high school level we must provide problem solving courses in fitness which teach all students to become good fitness and exercise consumers. Such courses must be based on personal needs, interests and abilities (Corbin, 1978). 4. We must modify middle, junior, and senior high school programs to allow students to make personal choices of skills and activities. For too long our students have been turned off to activities which they know they will never do after they get out of school. We need to ask students what they want to learn. 5. We must modify classes so that longer periods allow longer dressing time to allow students to have time to dry their hair and get ready for the remainder of the school day. We must put an end to the military type locker room. Many locker room experiences are what produce feelings about physical education. As adults we would not put up with common dress codes and locker room policies. Why should we ask kids to? Would you join a health club which was run like many physical education classes? 6. We must realize that physical education does not stop after the school years. Those who will work in fitness centers, hospitals and other similar settings are teachers even though they will not teach in schools. They are NOT exercise scientists or exercise physiologists as they would like to call themselves! If we do not teach these professionals to realize that they are teachers who must meet the needs of their clients, we will lose out to less qualified "exercise" enthusiasts. 7. We must police our profession. We must certify all professionals to make sure they are qualified. We must do something to rid ourselves of those who do not do the job. 8. We must make sure our teacher preparation institutions do the job. This means preparing professionals with a good understanding of the exercise sciences AND teaching skills. All physical educators, in schools or out of schools, must first be experts in the multiple disciplines of physical education. But by itself, a study of the disciplines is NOT enough. We must make sure that we teach professionals how to teach and how to work with the public. If we are to succeed in the future we must adopt the "new wisdom" of the animal school. Every person can benefit from physical education if we accept the fact that each person can be no better than his or her potential will allow. Physical education can help each of us look our best, feel good, enjoy life, and be healthy. It can only do this,

however, if we recognize that we can't all be champions, but we can each be the best we can be. The time to change is NOW! Role of technology Technology use in physical education new technology in Physical education is playing a big role in classes. One of the most affordable and effective is a simple video recorder. With the use of a video recorder students can see the mistakes they're making in things such as a throwing motion or swinging form. Studies show that students find this more effective than having someone try to explain what they are doing wrong, and then trying to correct it. Educators also found the use of other technologies such as pedometers and heart rate monitors very successful, using them to make step and heart rate goals for students. Using heart rate monitors in physical education is important because it helps students understand how exercise affects their body. Other technologies that can be used in a Physical Education setting would include video projectors, GPS and even gaming systems such as Kinect, Wii Fit and Dance Dance Revolution. Projectors can be used to show students things such as proper form or how to play certain games. GPS systems can be used to get students active in an outdoor setting and active exergames can be used by teachers to show students a good way to stay fit in and out of the classroom setting. Another type of technology that is commonly used in Physical Education is the use of pedometers. Pedometers do not necessarily track how far a person is going, but it lets them know the number of steps they are making. It

Strength and power

Gorostiaga et al. (2005) investigated power and strength of Spanish elite and amateur team-handball players and found that the elite players have a higher one-repetition maximum ($1RM_{BP}$) in the bench-press (+22%), a higher average power output of the upper extremities (+20%) and a higher average power output in half-squat (+16%) compared to amateur players. A positive correlation was found between ball velocity in the 3-step running throw and concentric velocity production at a load of 30% of $1RM_{BP}$ ($r = 0.72$) as well as concentric power production during half-squat action ($r = 0.62$). A positive influence of strength and power on ball velocity in the team-handball throw was also found in several studies (Chelly et al., 2010; Debanne and Laffaye, 2011; Granados et al., 2007; Marques et al., 2007). Gorostiaga et al. (2005) suggested that higher values of maximal strength and muscle power would give a clear advantage to sustain the forceful muscle contractions during team-handball specific movements. Strength and power training is therefore important to improve performance in team-handball. To increase strength and power, different dynamic strength and power exercise over training periods between 6 and 12 weeks were employed in several training studies (Gorostiaga et al., 2006; Hermassi et al., 2011; Marques and Gonzalez-Badillo, 2006; Marques et al., 2007). Thorlund et al. (2008) examined acute fatigue-induced changes in muscle mechanical properties and neuromuscular activity in elite team-handball players following a simulated team-handball game and found a significant decrease in single-joint isometric muscle strength and power from pre to post test. Michalsik and Aagaard (2014) analyzed the physical demands in elite male and female and Michalsik et al. (2014b) the technical match characteristics in elite male team-handball players. They found sex and position specific differences in performing fast breaks (more sprints for wing players), physical confrontations (more for backcourt players and pivots), strength related actions and high intensity running (more for male players) as well as relative work load in competition (more for female players). We therefore recommend that upper and lower limb strength and power are important to increase performance in the team-handball specific movements as well as to prevent a decrease in performance in the later stages during a team-handball game. To optimize team-handball specific

strength and power training different demands in sex and playing position have to be considered (Michalsik and Aagaard, 2014; Michalsik et al., 2014b).

Methodology

For the propose of the study 40 right hand dominance boy students from government schools, Nagappattinam District, Tamilnadu, India were selected as subjects at random and their age ranged between 17-19 years, the selected subjects were divided in to two groups namely physical training (n=20) and control (n=20). The physical training group underwent training for 60 min/4 days/15 weeks. The maximum strength (handgrip dynamometer) was selected as dependent variables and tested before and after the experimental period for both the groups. The game specific training group underwent training on Bouncing the handballball (right and Left hand alternatively), Wall Catching the ball (right and Left hand alternatively), Ball juggling (right to left hand), Ball juggling (left to right hand), Pec dec (right and Left hand simultaneously) and Arm pullover(right and Left hand alternatively) as physical training, for fifteen weeks, four days per week and sixty minutes per day including warming up and cooling down exercises. The maximum strength (hand grip dynamometer) was selected as dependent variables and tested before and after the experimental period for both the groups. The collected data were analyzed by using ANCOVA. Further, independent 't' was calculated to find out the difference between left and right hand and the magnitude of distance was also calculated to find out the level of improvement on dexterous. Level of confidence was fixed at 0.05.

Results

TABLE – I

ANCOVA FOR STRENGTH

VARIABLES	DEXTEROUS	Adjusted Post Test Mean		sov	Sum of Squares	df	Mean Squares	'F' Ratio
		Physical Training Group	Control Group					
MAXIMUM STRENGTH	Right hand	55.28	50.75	B	185.58	1	185.58	97.50*
				W	70.42	37	1.90	
	Left hand	37.86	26.91	B	1165.76	1	1165.76	169.07*
				W	255.12	37	6.90	

The table I shows that there was significant difference between the adjusted post-test means of

physical training and control group on right and left hand strength. To find out the improvement on dexterous level, independent 't' ratio was calculated with the magnitude of distance (%).

TABLE – II

DEXTEROUS 't' VALUE AND MAGNITUDE OF DISTANCE

VARIABLES	DEXTEROUS	Mean	SD	't' Value	Magnitude of distance In %
MAXIMUM STRENGTH	Right Hand	0.94	0.78	1.54	12.38%
	Left Hand	0.65	0.33		11.50%

The result of the 't' shows, insignificant difference between right hand and left hand maximum strength (handgrip strength). The magnitude of distance was higher for right hand when compared to left hand on hand grip strength.Hence, it was concluded that the selected training improves the dexterous level.

Discussion

The findings confirm that physical training has a significant impact on strength and coordination. The findings of Ruth Humphry et al 1995, was that, right and left hand rivet removal have more score than arranging the rivets in holes with left and right hand. This might be because of the time taken for manipulation while picking up rivets from container, when other conditions are constant like position of test platform & the subject, the distance that the arm movement is covering. The finger dexterity test is used to assess a subject's fine motor skills. It is performed by one hand and the time score is inversely related to the performance. This test revealed that there was no statistically significant difference between the performance scores of the left and right hands in any of the groups. (Nalcacy E, Cicek M, Genç Y, 2001). There is no difference handedness between the dominant and non-dominant hands in performance of tasks requiring eye-hand and arm-hand coordination. (Benton AL, Meyers R, Polder GJ, 1992). The present result are also shows the same.

(Lucy Hodges, Jo Adams2007), investigated the differences in grip strength and dexterity of the dominant and non-dominant hands. Between-group comparisons found that left-handed individuals were significantly more dexterous with their non-dominant hand compared with the right-handed group. Incel et al (2002), documented significantly more grip strength in dominant hands than in non-dominant hands for right-handed people. Similarly, the results of right-handed subjects indicated significantly greater grip strength in the dominant hand in both flexed and extended elbow positions. The resent study shows the dominant hand shows better improvement when compare with nondominant hand. Hence, the physical training has improves the nondominant hand performance from his base level.

Conclusion

It was concluded that the handball game specific training improves strength (maximum strength) of dexterous (Hands). Hence, the dominant hand shows better improvement on maximum strength. Hence, nondominant has improves strength when compared to base level. If an Individualhaving better dexterity, they can able to do any sort of work with both hands simultaneously without having any tired. The finding of the study helpful to the coaches and physical educationist to enhance the strength and coordination of dexterous to the players who involved in the various sports activities. The physical training on dexterity was helpful to the players to use there both dominant and nondominant hands effectively. Being ambidextrous (using both hands) in sports activity is especially helpful during high-level competition. Further the rocket and bat game players will be given these type of specific physical training to impure their dexterity, and to reduce higher use syndrome of land.

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