

Role of PE program in prevention of suicide among youth and children: a conceptual approach

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Abstract

Background: PE has been constantly educating the children about a healthy lifestyle. However, Physical activity, today, has reduced to a large extent due to the myth that physical activity reduces academic performance. Of late, an increase in the suicidal tendency among the youths and adolescence has been seen. This could be due to the competitive environment they are exposed to. Academic failure, parents' high expectation, stress, anxiety, etc are some of the main reason for suicide attempt amongst adolescence. PE program provides an outlet of this negative emotion through their physical activity. **Purpose:** This conceptual article will highlight the role of PE program in the prevention of suicide ideation among young children through physical activity. **Study Design:** Conceptual approach. **Method:** Relevant articles published by different researchers obtained through Google Scholar search, Research Gate, and Pub Med with the keywords Suicide ideation by youth, suicidal behaviour, Physical activity and suicide attempt, Causes of suicide attempts by children, Research based PE program for youth, role of PE in prevention suicide, etc. **Conclusion:** Physical education (PE) programme directly cannot prevent young adolescents from suicide attempts since the cause of suicide attempt is many. However, physical activity in PE class seems to have benefited children in academic performance, controlling obesity, other psychological benefits like decision making, will power, and serves as an outlet for negative emotions like stress, anxiety, depression, etc which are some of the factors contributing to suicidal ideation in young adolescences.

Key words: Suicidal ideation, stress, anxiety

1. Introduction

Suicide attempts by young adolescents have drastically increased since the last 30 years as children today are exposed to a more competitive environment in every aspect of their lives. Lewis et al. (1988) had shown that suicide attempters have lower levels of academic success for the first time. The study was supported by Perez et al (2016), Yaylachi (2015), Christiansen (2015), Kosidou et al., (2014), Richardson et al. (2005). Suicide is a general health problem (Levine 2008), psychological disorders (Murrays & Lopez 1996) that began with suicidal ideation, followed by an attempt suicide & finally complete suicide. Suicide is the second most common cause of death in young adults and it is a worldwide problem (Venumadhava & Sahay 2014). However, Waldvogel et al (2008) considered suicide as the third major cause of death among the adolescents & youths. The causes of suicidal attempts are expressed by different psychologist & researchers. The main cause of suicide are depression (Izadina et al 2010, Gould et al., 2003; Wagner, 1997, Pinquart 2009), daily stress & anxiety (Levine 2008, Waldvogel et al 2008, Philips et al 2002), high parental expectations (realitiespeaks, 2013), academic failure (Yaylaci, 2015), and interpersonal difficulties (Jhonson et al., 2002). Some of the causes of suicide in young adolescents are shown in APPENDIX- I.

Regular exercise significantly reduces both suicidal thoughts & attempts among students who are bullied (University of Vermont, 2015). Behaviour change components are woven throughout the program and include goal setting, rewards, scheduling time for activity, obtaining social support, scheduling and planning skills, environmental stimulus, and positive self-talk. A sensible new report from the Institute of Medicine (2013) titled "Educating the Student Body: Taking Physical Activity and Physical Education to School" shows that exercise can significantly improve children's cognitive abilities and their academic performance, as well as their health.

It is said that a healthy mind dwells in a healthy body. Fundamental Movement Skill Manipulative-- Sending (roll, bowl, slide, strike, underhand throw/toss) and Non-Locomotor movement —Bend, curl, hold, lift, lower, pull, push, stand, stretch, reach, swing, twist, turn are taught in the PE class (Commonwealth of Virginia, Department of Education (2003). These skills will make the individual a healthy person with a good physique. A child with inferiority complex is also one of the reasons for suicidal ideation in high school students (Goodwin 2003). This inferiority complex in young adolescents leads to frustration resulting in reactions of aggression, resignation, fixation and regression (Rajeshwari and Kenchappanavar 2012).

PE programme is designed to teach children and adolescents the skills necessary to be active outside of physical education class, on the weekends, during vacations, and ultimately the rest of their lives (www.sparkpe.org/standardsNASPE.pdf). It also focus upon teaching students tactical understanding before dealing with the performance of skill, as such it offers a tactical approach to games teaching emphasizing game performance over skill performance (Griffin, Mitchell & Oslin, 1997). The school PE programmes are designed to increase daily levels of physical activity for all school-age children and youths. Over the years, researchers and educators have revised their PE curricula and training programs to meet the six NASPE, 2006 (National Association of Sport and Physical Education) guidelines: 1) demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities, 2) demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities, 3) participates regularly in physical activity, 4) achieves and maintains a health-enhancing level of physical fitness, 5) exhibits responsible personal and social behaviour that respects self and others in physical activity settings, and 6) values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction. SPARK (Sports, Play, and Active Recreation for Kids) is another pioneer organisation that has been contributing in the systemic reform of physical education (PE) since 1989. In addition to the six guidelines of NASPE, SPARK supports Healthy People Goals (HPG) 2010: a) PE classes make every effort to engage students in moderate to vigorous physical activity (MVPA) at least 50% of class time without sacrificing academic achievement or student enjoying PE, b) SPARK focus on positive health outcomes of students. These include physical fitness and sports skills, c) SPARK programs include strategies that promote behaviour and environmental change techniques, d) SPARK also follows ASAP (As Soon As Possible) activity to avoid the lengthy instruction in Physical education class.

Schools serve as an excellent venue to provide students with the opportunity for daily physical activity, to teach the importance of regular physical activity for health, and to build skills that support active lifestyles. Unfortunately, most children get little to no regular physical activity while in school which leads to obesity in young children (Stewart G. T, 2009). Karla (2012) expressed childhood obesity is associated with a higher chance of premature death and teens who think they are overweight are more likely to try suicide (Center for Advancing Health 2009; Swahn M, et al., 2009).

Today with commercialisation and growth of the city, there are no any free spaces available for children to play. The last batch of children in any sports is in the schools. Children are fundamental to everything we do viz, enjoyment of the child, learning of the child, growth of the child. Therefore, children should engage in at least 60 minutes of moderate activity on most days of the week (Centers for Disease Control and Prevention, Unknown), yet estimates show that only 3.8 percent of elementary schools provide daily physical education (Lee S, Burgesson C, Fulton J, et al., 2006).

As schools everywhere strive to improve the academic performance of their students, many have cut physical education and recess periods to leave more time for sedentary classroom instruction. A sensible new report from the Institute of Medicine (2002) titled "Educating the Student Body: Taking Physical Activity and

Physical Education to School” shows how short-sighted this trend can be. It found that exercise can significantly improve children’s cognitive abilities and their academic performance, as well as their health.

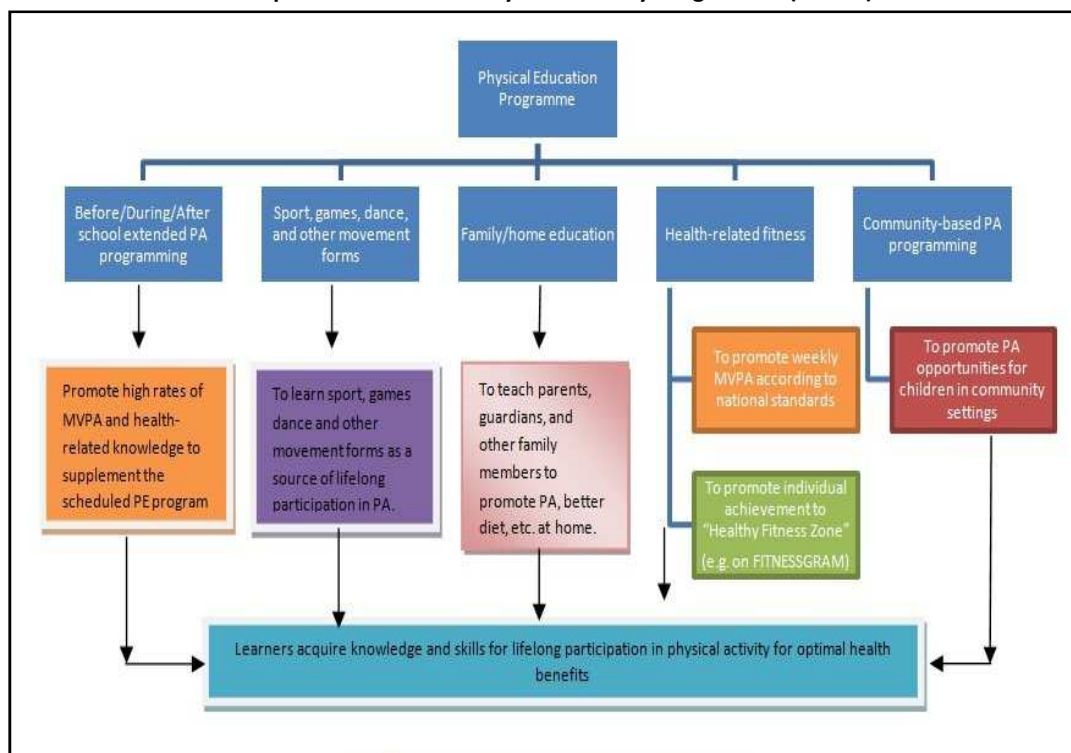
In India, many Sports organisation (LEAPSTART, EDUSPORTS, KOOH SPORTS, SPORTS MENTOR, PEFI, YAS, SAI, PE colleges, etc) are taking initiatives to run physical Education program in School and colleges with the objective of developing physical education programme. The main objective is to provide sports education in children from the grass root level. Sports education includes basics movement’s skills, locomotion, basic skills of the games, rules and regulations of the games, nutritional knowledge, team cohesion, etc. Besides, the psychological benefits developed in the PE class helps in reducing risk for suicidal thoughts, plans, and attempts (Southerland J.L., 2016).

Health Optimizing Physical Education (HOPE) through Physical Education:

A new Comprehensive School Physical Activity Programs (CSPAP) curriculum model called Health Optimizing Physical Education (HOPE) that can be used to help Primary to High School (P-12) students to acquire knowledge and skills for lifelong participation in physical activity that contributes to optimal health benefits has been developed by National Association for Sport and Physical Education (NASPE). Metzler et al., 2013 expressed that a CSPAP is intended to provide expanded opportunities for physical activity beyond regularly scheduled Physical Education time—including before, during and after school, as well as opportunities outside of school (e.g., at home and in the community). The concept of Comprehensive School Physical Activity Programs (CSPAP) is designed to increase daily levels of physical activity for all school-age children and youths (Figure 1). Healthy students are better learners (Bash, 2010). Adolescents who are physical active 4-7 times a week were less likely to report psychological complaints (Petronyte G., Zaborskis A., 2009). School physical education (PE) will flourish only when its programs are perceived as being of public importance.

HOPE aim at developing the public health goal for students to accrue adequate amounts of current physical activity and be prepared for an active lifestyle in adulthood. It involves all the socio- ecological factors that affect the child so as to achieve the optimal health benefits. They are Individual, Interpersonal, Organizational, Community and Public Policy (Fig. 2).

Figure 1
Comprehensive School Physical Activity Programme (CSPAP)



Reproduced with permission from the work of Metzler et al., 2013

Figure 2
Socio-Ecological Factors



Source: Metzler et al., 2013

Physical Education and Academic Achievement:

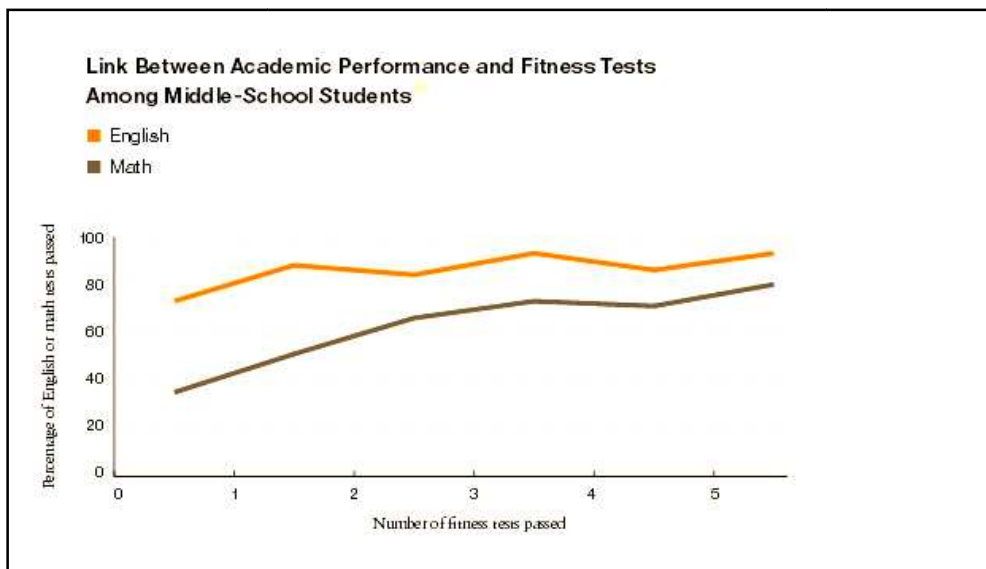
Academic failure and high parental expectation are one of the reasons for suicide ideation in adolescents (Yaylaci, 2015; realityspeaks, 2013) which leads to daily stress & anxiety among youth (Levine 2008, Waldvogel et al 2008, Philips et al 2002). Over the years, a number of scientists have shown a correlation between high standardized test scores and physical fitness scores (Centers for Disease Control and Prevention), and that more time spent in physical education class did not result in a decrease in academic performance (Salis, McKenzie, Kolody, Lewis, Marshall, and Rosengard, 1999). Many Studies have been conducted to see the relationship of physical activity with academic achievement. Children who performed better on aerobic capacity fitness tests were more likely to score higher on state math and reading exams (Castelli D, et al., 2007 (Figure 3). There is a myth that sacrificing physical education for classroom time does not improve academic performance. Students who spent more time in PE performed better than students of control group (Sallis J, et al, 1999).

Michigan State University reported that the fittest middle school students in grades 6-8 received better grades and higher scores on standardized tests than their less fit counterparts. The study examined fitness and academic results of more than 300 students at a West Michigan school; the data indicated that cardio-respiratory fitness and muscular strength and endurance were the health-related fitness components most strongly associated with academic achievement. Another study by Carlson S, Fulton J, Lee S, et al., 2008, Early Childhood Longitudinal Study in Girls students who were enrolled in PE for 70 or more minutes per week had significantly higher achievement scores in mathematics and reading than girls who were enrolled in PE for 35 or fewer minutes per week. He further added that among boys, greater exposure to PE was neither positively or negatively associated with academic achievement.

In Texas FITNESSGRAM test results from more than 2.4 million students in grades 3 to 12 during the 2007–08 school year and found significant school-level correlations between physical fitness achievement and better performance on state standardized tests. Higher physical fitness achievement also was associated with better school attendance rates and fewer disciplinary incidents involving drugs, alcohol, violence or truancy. Associations were stronger for cardiovascular fitness than for measures of body mass index (BMI), but the patterns were consistent (Figure 4).

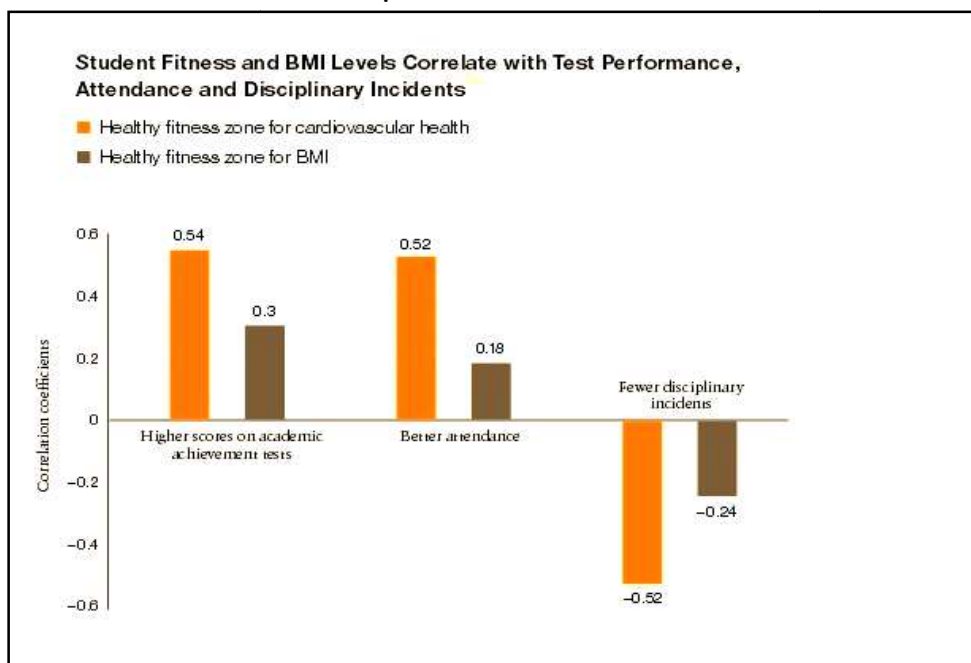
Physical activity may increase students' cognitive control – or ability to pay attention – and also result in better performance on academic achievement tests (ScienceDaily, 2009). Exercise is the single most powerful tool we have to optimize brain function he explains that the real reason anyone feels so good when they get their blood pumping through exercise is that it makes the brain function at its best (John Ratey, Unknown).

Figure 3
Relationship of Physical Activity & Academic Achievement



Adapted from Castelli D, et al., 2007

Figure 4
Relationship between Fitness and BMI Level



Source: San Diego State University, 2009 (activelivingresearch.org)

2. Conclusion

It will be too much to conclude that PE program reduced suicidal ideation in young adolescents since the reason of suicide attempt by the children is many. However, this short conceptual article tries to highlight some of

the role played by the PE teachers in reducing some of the factors leading to suicide ideation in children. Many studies reveal the positive correlation between School Physical Activity (PE programme) and academic achievement. Increasing time during the school day for physical activity does not appear to take away from academic performance. Physical activity in PE class seems to have benefited the child in academic performance, controlling obesity, psychological benefits like decision making, will power, and act as an outlet for negative emotions like stress, anxiety, depression, etc which are some of the factors contributing to suicidal ideation in young adolescences. Instead, it will help the child in their academic performance and teach them proper use of their leisure time.

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