

The Role of Sports Physiotherapist in Confronting Exercise Addiction

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Everyday physical activity plays an important part in health maintenance and disease prevention. Excess exercise, however, can cause detrimental effects on both physical and mental health. It can also hamper the quality of life to an extent that individual is unable to regulate this behavior. 'Addicted' exercisers are more likely to work out for intrinsic rewards and experience troubling feelings of deprivation. In comparison, 'committed' exercisers participate in physical activity for extrinsic benefits and, when they cannot exercise, do not experience extreme withdrawal symptoms. Sportspeople indulge themselves in long hours of training as a response of their quest to improve endurance and performance in the face of common setbacks. Recognizing the addiction to exercise is also a contentious idea and the aim of this article is to draw an attention towards the same. Exercise Addiction diagnosis needs employment of questionnaires such as Exercise Dependence Scale, Obligatory Exercise Questionnaire, and Exercise Addiction Inventory. They need to be employed in the pre-participation evaluation of an individual participating in any sports event. Physiotherapists are often the first to meet an individual with exercise addiction. Physiotherapists play an important role in diagnosis of exercise addiction as well as in prevention as they are aware of challenges of treating exercise addicted patients and develop specific approaches to deal with their issues. As if it goes unnoticed, the prognosis can even be fatal.

Key Words: Behavior, Exercise, Mental health, Physical therapist, Survey, Sports

INTRODUCTION

Regular exercise ensures physical, mental and physiological benefits, and association with release of hormone [1]. This sense of euphoria is broadly enjoyed by population performing exercise either as lifestyle engagement and/or

modification as professional sportsperson [2]. However, with passage of time, few individuals engrave their lifestyle and daily life engaging in exercise time producing detrimental effects in other parameters. Broadly, all time-consuming tasks have adverse effects on sportsperson's mental and physical attributes [3]. The boundary where physical activity closes to be useful and starts to impede mental and physical wellbeing is a genuine challenge giving it a term of "Exercise Addiction" (EA) where this has been labeled as the syndrome of compulsive or prolonged exercise which could be described as physical activity once or often, with a regular schedule where the person gives priority only and only to exercise minimizing the significance of other mandatory protocols and it is also known as "Exercise Dependence" (ED) [4]. First introduced in the 1980s, the concept

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of ‘Negative Exercise’ or EA contrasts with the prior concept of ‘Positive Exercise’ which indicates a positive health benefit. A condition so long described before still goes undiagnosed due to lack of awareness [5]. There is an emergent need to distinguish the frequent enthusiast from someone who is addicted to exercise. This phenomenon stands same for gym lover, to athlete to players playing as for contact or non-contact sports. Would we consider an elite competitor preparing for the Olympics as having EA? What about the committed runner who includes an additional three miles to his or her running plan after lunch at a fast-food restaurant? It is important for the coach and a physiotherapist to differentiate a dedicated athlete from an athlete who is addicted to exercise. It seems to be a very common explanation among amateur athletes that the excessive they train themselves it appears to be of great pleasure, especially among those who perform endurance sports and other recent sports modalities such as Cross Fit, which incorporates aerobic and anaerobic exercise with the goal of moving forward and physical execution [6]. The adaption to this behavior can serve as a double-edged sword as it may lead towards creating unhealthy sports behaviors, such as EA. Keeping in consideration the other forms of addictions, EA is distinguished by six components or patterns: salience, tolerance, mood alteration, personal conflict, withdrawal symptoms and relapse, i.e., the tendency to return to excessive behavior after abstinence or control periods [7].

DISTINGUISHING EXERCISE ADDICTION FROM OTHER DISORDERS

It is vital to know when a person’s behavior is representing an addiction and not going through other disorders [8]. EA is also referred to as being compulsive or impulsive, like most behavioral addictions. It should also be separated from exercise that happens at a tall recurrence. The Olympic competitor may commit an extraordinary bargain of time to the activity, undergo a substantial reduction in other activities and go through withdrawal when the behavior is halted or cut back. Despite meeting three EA requirements, a professional athlete is not inherently addicted to his or her sport. A source of uncertainty in literature has been a reason to separate exercise addiction from exercise performed with

high intensity and frequency [9]. EA occurs in combination with other addictions that hinder the process of recovery if left unrecognized. Three main types of disorders associated with exercise addiction:

- 1) Anorexia Athletica (Obligatory Exercise): When a person feels obligated to exercise beyond the point of benefiting one’s body. Individuals, irrespective of discomfort, illness, disease, etc., will engage in sporting activities and will strive to organize their lives to optimize exercise time [10].
- 2) Exercise Bulimia: When a person engages him/herself in binge eating sessions that are taken after periods of high-intensity work out [11].
- 3) Body Dysmorphic Disorder: When a person is fascinated or obsessed with parts of their body and perceives them to be distinct or weird. In order to enhance their understanding of the “flawed” part of the body, these people can create highly regulated routines [12].

ROLE OF PHYSIOTHERAPIST

The most challenging part here is making an athlete realize their exercising is a problem. Abstinence from exercise may not be the appropriate goal when it comes to treating EA. Coach and physiotherapist need to develop “SMART” goals with every athlete i.e., Specific, measurable, achievable, results-focused and timely. In some cases, a new form of exercise may be recommended for example, the runner becomes a swimmer on a temporary basis only [13].

Compulsive training possibly led to injuries and the first clinicians to treat over-trained athletes pose as physiotherapist. A study done with interviewing 24 sports physiotherapists about medical issues and approaches for treatment of addicted patients showed that most respondents (71%) identified compliance problems in reducing exercise as part of injury care. The methods used to treat those with an exercise addiction were 1) Explanation/education, e.g., warning of physical effects if exercise was kept at the same stage, 2) Recommendations of alternative fitness exercises and/or 3) Referral to psychology treatment. The research indicates that psychological approaches to the treatment are most recommended [14]. In the current scenario, assessments are taken of the athletes as per the requirements of

the performance. But unfortunately, no emphasis is paid toward the assessment of EA in context that whether an athlete is in healthy mental well being or he/she is marching towards addiction.

So, what possibly can be done? A Proper and periodic assessment is required for both group of engages firstly, Individuals performing exercise and secondly, mandate to professional players. Supportories who can be utilized to promote detection of EA constitute the following protocols: Exercise Dependence Scale, Obligatory Exercise Questionnaire, and Exercise Addiction Inventory should be given an equal importance as of fitness tests in the regime.

Before participating, a pre-participation evaluation is necessary to be performed which evaluates whether an athlete is fit or not to participate in the event. But none of these tools are being considered to rule out for the exercise addiction. These tools should be considered as well.

- The Exercise Dependence Scale (EDS) is able to distinguish not only between the people at risk but also between the non-dependents symptomatic as well in non-dependent asymptomatic individuals. It determines whether people could have a physiological reliance (prove of withdrawal) or no physiological reliance [15]. Steady with the Diagnostic and Statistical Manual of Mental Disorder-IV (DSM-IV) criteria for substance dependence, exercise dependence was operationalized and measured as a multidimensional maladaptive design of exercise, leading to clinically significant disability or distress, as manifested by three or more of the following: Withdrawal, tolerance, lack of control, reduction in other activities, intention effects, time and continuance. The 21 statements in this scale are aimed at establishing exercise dependency. In individual and group settings, EDS has been used with 18 years respondents and older. In the black space given after each item, participants indicate their response between 1 symbolizing never and 6 indicating always. EDS requires roughly five minutes to be completed. Individuals that are categorized into the dependent category on 3 or more of the DSM criteria are classified as exercise dependent [16]. Dependent range is considered as indicating a score of 5 or 6 for that item. People who scored in the range of 3 to 4 are labeled as symp-

tomatic. Theoretically, these people may be considered at-risk for exercise dependency. Lastly, people who score in the range of 1-2 are graded as asymptomatic [17].

- The Obligatory Exercise Questionnaire (OEQ) is a method used for calculating excessive exercise activity, when applied to eating disorder in particular. Three valuable components emerged from OEQ-emotional aspect of exercise, exercise frequency and intensity, and exercise pre-occupation [18]. It is a self-report questionnaire of 20 items outlined to evaluate an individual's commitment to and compulsion for exercise. Respondents rate how much they agree or disagree with an explanation on a four-point scale ranging from "never" to "always" about their exercise conduct. Higher score on the scales shows a noteworthy commitment to exercise [19].
- The Exercise Addiction Inventory (EAI) is a self-report measure which comprises of 6 items and is fast and straight forward to manage. Based on the perceived value of exercise, the subjective experience recorded as a result of exercise, and the frequency of exercise required achieving the desired benefits, it represents perceptions and beliefs about exercise behavior [20]. For individuals deemed at risk for exercise, the EAI score is 24. To be representative of a symptomatic, a score in between 13-23 is considered and a score of 0-12 indicates an asymptomatic individual [21].

CLINICAL IMPLICATIONS

The present article proposes an urgent drive of attention towards existence of EA. It is one of the representing and negative behavioral trends currently affecting endurance sports athletes, with 14.2% of the highest exercise addiction prevalence rates. Physiotherapists are often the first to meet such individuals due to their injury [22]. In addition, Physiotherapists are not the prepared specialists in psychometric evaluation. However, the above-mentioned scales with their convenient and helpful cut off point value ease of administration and ranking may be helpful in determining if the individual needs to be referred for consultation to avoid further harm. These questionnaires should be considered as

part of pre-participation evaluation for avoidance of mental as well as physical damage on temporary and permanent attributes. It will be helpful for sportsperson to collaborate with physiotherapist and sports coach to build an effective exercise routine and to re-learn to utilize internal stimuli, such as pain and exhaustion, to distinguish between sufficient and unnecessary training and safe and unhealthy motivators, such as comparisons with others.

DISCUSSION

A review including wide range of studies on EA reveal predominance within common populace to be near 3%. Prevalence of EA varies from 52% among tri-athletes to 25% among runners. A study reported far much lower rates of 3.2% of “ultra-marathoners” and 2.5% of the exercising population using the exercise dependence scale for screening [23]. In a study, among 300 clients of a fitness room in France, 125 (42%) presented diagnostic criteria of exercise dependence. In Australia, among 234 elite Australian athletes were recruited, 34% classified as having exercise dependence. Even if 1% of the exercising population may be addicted to exercise, it reflects a very large number of people who are in urgent need of help [12].

Whatever the number, these statistics are making no compulsion towards worrying, far from concealing the emergence of a new reality that is getting closer and closer to being a major health issue in today’s society. Nonetheless, a new piece of research conducted by Martin et al. has highlighted the fact that people who perform endurance sports continue despite being injured and have high scores on the EAI as well. Competitive runners show more addiction symptoms than non-competitive ones, regardless of their gender [24]. Despite the risk of worsening a serious injury, addicted individuals will frequently continue to exercise, even though advised to discontinue the practice by a health professional. Morgan (1979) cited evidence of runners who continued to exercise, ignoring stress or other accidents, even when inactivity had been advised by a doctor. Likewise, Yates et al. (1983) depicted the case of a 31-year-old male who ran at slightest 80 km/week despite serious tendonitis pain that he had endured for long three years. Thus, EA may have broad-reaching implications. Exercise dependent individuals

are not only prone to injury, in addition they present with proved evidence of issues towards treatment adherence.

REFERENCES

1. Shaphe MA, Chahal A. Relation of Physical Activity with the Depression. *J Lifestyle Med* 2020;10:1-6.
2. Demetrovics Z, Kurimay T. Exercise addiction: a literature review: A Magyar Pszichiatriai Tarsasag tudományos folyoirata. *Psychiatr Hung* 2008;23:129-41.
3. Lichtenstein MB, Hinze CJ, Emborg B, Thomsen F, Hemmingsen SD. Compulsive exercise: links, risks and challenges faced. *Psychol Res Behav Manag* 2017;10:85-95.
4. Nogueira A, Tovar-Gálvez M, González-Hernández J. Do It, Don’t Feel It, and Be Invincible: A Prolog of Exercise Addiction in Endurance Sports. *Front Psychol* 2019;10:2692.
5. Macfarlane L, Owens G, Cruz BD. Identifying the features of an exercise addiction: A Delphi study. *J Behav Addict* 2016;5:474-84.
6. Berczik K, Szabó A, Griffiths MD, Kurimay T, Kun B, Urbán R, Demetrovics Z. Exercise addiction: symptoms, diagnosis, epidemiology, and etiology. *Subst Use Misus* 2012;47:403-17.
7. De La Vega R, Parastatidou IS, Ruíz-Barquín R, Szabo A. Exercise addiction in athletes and leisure exercisers: The moderating role of passion. *J Behav Addict* 2016;5:325-31.
8. Loprinzi PD, Edwards MK, Frith E. Exercise and Prospective Memory. *J Lifestyle Med* 2018;8:51-9.
9. Freimuth M, Moniz S, Kim SR. Clarifying exercise addiction: differential diagnosis, co-occurring disorders, and phases of addiction. *Int J Environ Res Public Health* 2011;8:4069-81.
10. Di Lodovico L, Dubertret C, Ameller A. Vulnerability to exercise addiction, socio-demographic, behavioral and psychological characteristics of runners at risk for eating disorders. *Compr Psychiatry* 2018;81:48-52.
11. Lejoyeux M, Avril M, Richoux C, Embouazza H, Nivoli F. Prevalence of exercise dependence and other behavioral addictions among clients of a Parisian fitness room. *Compr Psychiatry* 2008;49:353-8.
12. McNamara J, McCabe MP. Striving for success or addiction? Exercise dependence among elite Australian athletes. *J Sports Sci* 2012;30:755-66.
13. Weinstein A, Weinstein Y. Exercise addiction-diagnosis, bio-psychological mechanisms and treatment issues. *Curr Pharm Des* 2014;20:4062-9.
14. Adams J, Kirkby R. Exercise dependence: A problem for sports physiotherapists. *Aust J Physiother* 1997;43:53-8.

15. Hausenblas HA, Downs DS. Exercise dependence: A systematic review. *Psychol Sport Exerc* 2002;3:89-123.
16. Hausenblas HA, Downs DS. How much is too much? The development and validation of the exercise dependence scale. *Psychol Health* 2010;17:387-404.
17. Vahia VN. Diagnostic and statistical manual of mental disorders 5: A quick glance. *Indian J Psychiatry* 2013; 55:220-3.
18. Bardone-Cone AM, Higgins MK, St. George SM, Rosenzweig I, Schaefer LM, Fitzsimmons-Craft EE, Henning TM, Preston BF. Behavioral and psychological aspects of exercise across stages of eating disorder recovery. *Eat Disord* 2016;24:424-39.
19. De Young KP, Anderson DA. The importance of the function of exercise in the relationship between obligatory exercise and eating and body image concerns. *Eat Behav* 2010;11:62-4.
20. Griffiths MD, Szabo A, Terry A. The exercise addiction inventory: a quick and easy screening tool for health practitioners. *Br J Sports Med* 2005;39:e30.
21. Szabo A, Griffiths MD. The exercise addiction inventory: A new brief screening tool. *Addict Res Theory* 2004;12:489-99.
22. Hausenblas HA, Schreiber K, Smoliga JM. Addiction to exercise. *BMJ* 2017;357:j1745
23. Di Lodovico L, Poultais S, Gorwood P. Which sports are more at risk of physical exercise addiction: A systematic review. *Addict Behav* 2019;93:257-62.
24. Modolo VB, Antunes HK, Gimenez PR, Santiago ML, Tufik S, Mello MT. Negative addiction to exercise: are there differences between genders? *Clinics (Sao Paulo)* 2011;66:255-60.