Journal for Re Attach Therapy and Developmental Diversities
eISSN: 2589-7799
2023 June; 6 (6s): 39-47

Dysfunctional Exercise Behaviour among Female- Study on Amateur Runners in Delhi and NCR

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Received: 22-April-2023
Revised: 20-May-2023
Accepted:05-June-2023

Abstract

Dysfunctional Exercise Behaviour or Exercise addiction is a pathological fixation with physical activity. People who are addicted to working out, like those who are addicted to other substances, will maintain a very strict exercise routine, become preoccupied with it, continue to do it even though they are injured and further exertion is bad, refuse to stop doing it even when they want to, they aim to burn more calories to lose weight, they always have the constant fear that if they do not exercise, they will lose the body they gain, obsession with physical fitness and exercise. These characteristics define the component model of exercise addiction (EA). The number of marathons or long-distance running has been increasing so do the participation of females every year from Delhi and NCR. This gives ground to understand the impact of EA in the said sample. The data was collected through a cluster sampling method in which 100 working females in the age group of 25 -50 were selected for filling up a questionnaire, and the data sample was from Delhi NCR. The Data was collected by using Exercise Addiction Inventory, Compulsory Running and Running Addiction Scale. Result revealed that Professional status does affect dysfunctional exercise behaviour, whereas, marital status has no association with dysfunctional exercise behaviour. Additionally, there is a high risk of prevalence of EA among 39% of female amateur runner

Keywords: Female Amateur runner, Exercise Addiction, compulsive running and Running Addiction, Fitness

Introduction

Individuals with exercise addiction have shown the same symptoms like that of substance addiction, as mentioned in the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders-IV) and as per APA(American Psychiatric Association, 2013),i.e., they have no control over it, have withdrawal symptoms, increased exercise over time and have mood issues if they cannot exercise due to injury (Terry et al., 2004; Hausenblas and Downs, 2002a,b; Griffiths, 1996,2005).Possible explanations include the pleasure people get from engaging in the behaviour despite the damaging outcomes (Berczik et al.,2012;Sellman,2016) and the stress relief that results from engaging in the behaviour (Baumeister & Nadal, 2017; De La Vega et al., 2016; Nogueira et al., 2018, 2021).It is contrary to the statement thatGlasser (Glasser,1976) gave to exercise behaviour; he called it"positive addiction". But, Glasser's philosophy regarding the positive aspect of exercise behaviour didn't last long.Soon after,Morgan (Morgan, 1979) highlighted a negative side ofexercise. Excessive exercise has been linked to a variety of health issues, both physically and mentally (Berczik et al., 2014; Hausenblas and Downs, 2002a,b).

Exercise addiction (EA) has been studied in different sports,from team events to individual participation (Haberman, 2017; Simón-Grima et al., 2020;Szabo,2018). Addiction in runners was mentioned for the first time by Sachs and Pargman (1984), after which there were several studieson runnersdevelopingrunning addiction (ŽIVČIĆ TOMIĆ et al., 2022; Maceri et al., 2019; Chapman & John de Castro, 1990).

In amateur runners EA is studied from a variety of angles, including gender(Kovacsik et al., 2018;), age (Berczik et al., 2012), training schedules (KM. weekly or monthly, Pace or speed or urge to give their personal best) or other demographics (Youngman, & Simpson, 2014,Macfarlane et al., 2016).As per different studies, it has beenfoundthat 9% of athletes and 7% of exercisers may be in danger and up to 30% of triathletes, in some

populations, are at risk of becoming dependent on exercise addictive(Mónok et al., 2012; Nogueira López et al., 2021). 0.5 to 42 of reported high levels of EA and 14% were endurance and 18.3% athlete "at-risk" for EA (Lichtenstein and Jenson,2016;Di Lodovico et al.,2019; Ruiz-Juan et al,2011; Lu.FJ.H et al,2012). In the Indian setting, the overall prevalence of EA is 3% (Sharma et al., 2019).

Long-distance runners are at the greatest risk of acquiring EA (Lichtenstein et al., 2021; Martin et al., 2017; Cetin et.al., 2020;), according to research on EA considering"Competitive Amateur Runners"printedin the "International Journal of Mental Health and Addiction" in 2021 by Lopez et al.,(2019). Compared to male marathon runners, female runners reported considerably higher EA scores (Alcaraz-Ibáez et al., 2022 Pierce, Rohaly, and Fritchley (1997). This number is even higher in endurance runners(Lassner et al., 2022).In a study of 72 endurance runner's 19.4 % of females were having EA (Lassner et al., 2022).

Women who are able to overcome the social stigmas attached to being physically active may account for the observed greater prevalence. Secondary EA, which has been linked to eating disorders and weight management, may also account for the gender gap in EA (Alcaraz-Ibáez et al., 2007). 2022; Chapman, 2020;Al-Saaraf et al., 2018). This behaviour is supported by the need to have a perfect body that gains social affiliation (Corazza and colleagues, 2019).

The need to study EA in females has become eminent, as in 2018, 50.24 % of runners were females that time they surpassed male participation (ŽIVČIĆ TOMIĆ et al., 2022; Runningwithgrit, 2022). A Total of 55000 runners participated in Tata Mumbai Marathon; a record 11,805 women competed in all race categories (HT Correspondents, 2023).

Literature highlighted that exercise addiction severely affectsthe quality of life, in terms of mood swings, disturbed-sleep patterns, and poor performance have all been reported to differ between the sexes in studies of athletes (Pierce, Rohaly, & Fritchley, 1997;Dumitru et al., 2019). To gain a deeper understanding of the mental health and mental illness experiences of female athletes, further research is needed. The recent studies have underlined the significance of using a wider variety of research methods. Individual variations in EA symptoms and how to evaluate them are poorly understood. (Szabo et al., 2016).The current state of literature is not adequate to study female athlete populations, whether elite, professional or recreational (Perry et al., 2021;Weinstein & Szabo, 2023)

Methodology

Aim:

To identify the prevalence of exercise addiction among Female Amateur-Runners.

Objective

1. To find out the frequency of EA in Female Amateur Runners.
2. There is a difference in EA between marital and professional status among female amateur long-runners.

Hypothesis

H_{a1}: There will be a high prevalence of EA in female amateur runners.

H_{a2}: There will be a significant relationship between EA and marital status and professional status of female amateur runners**.**

Participants

The total number of running groups in different parts of Delhi and NCR (Faridabad, Noida and Gurgaon). Through the Cluster sampling method, we selected four groups for research. We selected female runners from the age group of 25 to 50yrs from the cluster. Using a simple random method, we were able to guarantee that our samples were both proportionate (error 3%) and representative (error 3%, confidence interval 95.5%). The questionnaires were distributed to 100 runners (5km, 10 km, 21km, 42 km or ultra) who competed at least 2distance runsand that they could read, write or speak English language. All female runners are then briefed about the purpose by making different groups of them. As some female runners are apprehensive about filling online information due to data stealing online, they were allowed to fill forms manually. All participants were

informed that the survey is completely voluntary and that all data and information would not be shared. There was no right or wrong response. They were also encouraged to respond truthfully and thoughtfully. In case they need clarification, they could connect with the researcher. Those females who didn't respond to the online methods were approached three to four times, and the researcher cleared all their doubts.

Tools:

The questionnaire was in three parts.

1. Socio Demographic Questions: Questions included in the socio-demographic profiles: It was created by the researcher in order to collect socio-demographic datarelated to exercise and running attitude.The first included about age, marital status, occupation, level of education, and year in running and events participatedand keen to participate with reasons for running. The number ofraces completed. future intentions regarding participation in urban races.

2. **EA Inventory**: The Exercise-Addiction Inventory (EAI; Terry et al.,2004) hassix questions. The behavioural model of addiction serves as the foundation for the EAI's six assertions. These components are comprised of six elementsof addiction-"salience, conflict, mood modulation, tolerance, withdrawal, and relapse", on a five-point Likert scale from strongly agree to strongly disagree, to gauge how much someone agrees or disagrees with the corresponding statement. A high risk for EA is indicated by an EAI count of 23 or above. The EAI has a high level of internal consistency (Cronbach α=0.84). And this scale was also used on the Indian population**.**

3. Compulsive Exercise Test (CET); CET developed by (C. Meyer, Taranis L, Touyz S, 2011) was used to evaluate fundamental cognitive, emotionaland behavioural features of exercise. "Avoidance and rule-driven behaviour, weight-control exercise, mood improvement, besides the pleasure of exercise, and exercise rigidity are the five subscales that result from scoring items on a 6-point Likert scale ranging from 0 (never true) to 5 (always true)(C. Meyer, et al.,2011). More pathology is represented by higher CET scores. The Cronbach's alpha ranges between 0.95 to 0.98for this instrument, indicating that it has concurrent and convergent validity.

4. Running Addiction Scale (RAS); RAS developed by Chapman & De Castro, (1990) was created by Chapman and De Castro in 1990 and consists of 11 questions to evaluate exercise and running addiction. The survey questions were rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Results from the four questions were summed together to create a raw score (RAS) between 11 and 20. Cronbach's alpha α=0.82.

Results:

Result are described under following heads-

Socio Demographic Profile of Sample

The characteristics of the population are presented in Table 1. The average age of the respondents was 36.56 (standard deviation = 8.9777), 82% being Hindu and 10% Christian, 4 % Sikh and Muslim, 64% were married, 27% unmarried, 32% divorced, and 5% separated. In terms of level of education, almost all have university degrees. 39 % had PG, and 24 % were from medical, Law and other professional courses.The majority was 68 %, wereemployed and 11% were home-maker, and 11% were students. 8% were from govt jobs, and 57 %.were in professions like law, doctor, IT and others.

Exercise addiction (EA) inventory highlighted that 39% were in the category of exercise addiction, whereas 59% were symptomatic. 12.5% that exercise isthe most important thing in their life, 9.1% admitted that have conflicts regarding their running habits, 14.5 % admitted that they use exercise to escape mood issues, and 14% admitted to have developed tolerance and increased amount of exercise. 14.16% have mood issues if they miss exercise sessions, and 14% admitted that they end up over doing, if they happen to stop exercising due to any injury. 21% exercise without any obligation. 39% female-runners are in the severity range due to their exercise behaviour. (31% married, 7%, divorced and 1% separated). On professional status, 30 % were working, 12 % non-working, and 2% students were having EA.

Table 1 shows sociodemographic details. Table 2indicates age-wise participation. Table 3 highlighted the frequency of EA in regular participants of long-distance events. Table 4(CET) score and Table 5 summarise the finding and hypothesis testing.

Result Table 1: Characteristics of the sample's socio-demographic makeup.

Variables	Response option	Mean	Standard deviation	percentage
Age (n)		38. 76	7.876	
25-50		(3.93)		
Marital status	Married	1.50	.810	64%
	Unmarried			27%
	Separated			3%
	divorced			5%
	Graduate	3.25	1.132	30%
Education	Post-graduate			39%
	Ph.D.			7%
	Others(medical/ LLBetc)			24%
	Student	2.10	.560	11%
Professional status	Working			68%
	Non-working/home-maker			21%
occupation		2.57	1.139	8%
	Govt Job			57%
	Professional/ Doctors/ Lawyer			19%
	Others			2%
	Self-employed			14%
	Business			
	Private/ multinational/corporate			

Result Table: 2 Age frequency

Range		Frequency	Percent
	25-30	18	18.0
	31-35	12	13.0
	36-40	14	14.0
	41-45	28	28.0
	46-50	27	27.0
	Total	100	100.0

Result Table 3: Showing exercise addiction prevalence in runners

Exercise Addiction Range	Participantsregularly runninglong-distancee	Frequency	percentage
0-12 Normal	100	1	2%
13-23Symptomatic		60	59%
24-30 Severity range		39	39%

The Avoidance and Rule driven behaviour (eight items) and Exercise stiffness (three items) were included in the Compulsory Exercise Test (CET-11).Positively, dedicated runners.

Result Table 4: Compulsory Exercise test (CET-11)

Compulsory Exercise Test(CET)Females Range Mean score	Participants running regularly in long-distance running	frequency	%
0-21 (low committed)			
21-41(moderately committed)	100	0	0
42(above mandatoryrun)		0	0

	36	36
	64	64

The finding states that 64% runners who have participated in long-distance running events have a feeling of high compulsion to exercise, and 36% are having moderate compulsion 64%females who have been running and have already done 3 long-distance runs, are regular, and, exercise is a compulsory activity. It supports exercise addiction as exercise is a most important thing in their life. And endurance runners have high addiction.

Running Addiction Scale (4)= std. .378 mean .83. As This is used as the checklist for exercise addiction due to running

Result Table 5: Relationship between Exercise Addiction with Marital and Professional Status

Variable	Sig p<.05	Hypothesis
Professional status	0.016<05) Chi-square 4.448[a] 4.065[b]	H0= Exercise addiction/ CET//RAS has no association with professional status. H1= there is an association. Professional status does affect dysfunctional exercise behaviour. **Result**: We reject H^0 and accept H1
Marital status	0.29<.05 Chi-square 6.699[a] 3.956[b]	H0= marital status has no association with exercise addiction H1= marital status has an association with exercise addiction **Result**= We fail to reject H^o
There is a high prevalence of EA among female amateur runner	39%	

In addition, it has been found that age (χ^2=4.589[a], p>.05) and marital status (χ^2= 4.530, p<.05) does not affect the severity of exercise addiction. Whereas, professional status has a significant effect on Exercise addiction. Exercise addiction has a significant relation with compulsory exercise but not with running addiction (χ^2== 30.55, p<.05).

Discussion

The study's objectives were as follows: to determine the prevalence of exercise addiction in female amateur runners and to see if there was a similar link between exercise addiction to that of marital, and professional status. To that end, the study found that a sizable proportion of its participants were at danger of developing an exercise addiction, which was the primary motivation for the research.

The current study found that 39% regular female distance runners out of 100 subjects between the ages of 25 and 50 had an exercise addiction (Table 3).This supports the earlier finding in the research literature, that in athletes, the prevalence of exercise addiction is between 7% to 21.7% (Youngman & Simpson, 2014), whereas 43.3% reported amateur triathletes reported by Blaydon & Lindner(2002). As per a study by Ruby (2008), 32.5%of Ironman triathletes were having exercise addiction. And also holds up to earlier finding that females have a 0.5 to 21.7% risk range for exercise addiction and 0.5 to 42%(Costa et al., 2015; Youngman & Simpson, 2014).The presence of exercise addiction varied in married and unmarried females as well as their working and non-working status of them.

The interview at the time of collection of the data highlighted that for most of the subjects, exercise is a means to cope with stress which can relate to negative outcomes from exercise.(Egorov, & Szabo, 2013). As when involved deeply, Physical activity has been suggested as a means of constructing a sense of self (Chamarro et al., 2015). The majority of the women who took part in the study also engaged in other forms of physical activity.

There are 12.5% of people in this sample who rate exercise as their top priority in life, and 9.1% of people whose lives are negatively impacted by their running habits, as measured by the Exercise Addiction Inventory (EA) (Terry.,2004). 14.5% use exercise to escape mood issues, and 14 % have developed tolerance and increased their amount of exercise. 14.16% have mood issues if they miss exercise sessions, and 14 % admit to overdoing if they stop exercising due to an injury(Szabo et al., 2015). Without any obligation, 21% exercise. Marital and professional status had a positive correlation with exercise addiction (Table 5).

Indian population is still ignorant about dysfunctional exercise behaviour as not much research has taken place in the Indian context (Kumar, 2019). These findings are eye-opener in the context of female runners in India, where female participation in long-distance is increasing. Female runners as subjects are being considered for dysfunctional exercise running for the first time in India. This might be storming as females in India are already exceeding males in terms of psychiatric distress (Kanwal, 2022). Other reason for females to have exercise addiction is its association with eating disorders and body shaming, apart from stress coping. The social reason could be one possible reason, Women who are able to transcend the social stigmas attached to exercise are more likely to participate in it, despite its lower social approbation among women. Because of the high risk of addiction (about 25%), it is important to educate the racing community about the dangers of overtraining, how to avoid difficulties, and where to get assistance. (IVI TOMI et al., 2022) The results were published in (Dumitru et al., 2019).Data on exercise addiction is available from worldwide research, therefore, the obtained proportion of persons at risk might be compared to that. Among college students' literature reported prevalence rates in the range of 21.8-25.6% (Garman et al 2004, MacLaren, Best (2010). After covid, there is a fitness trend that needs to be studied (Kanwal, 2022). Sample size and methodological limitations mean that different studies find varying rates of exercise addiction.

Recommendation: Exercise addiction and passion relationships or moderate to strong commitment should be studied in the future with a sport-specific approach. Eating disorders and shaming are important factors and need to be studied in the Indian context. There is a need to do a qualitative study to find out the reasons for exercise addiction to find out the reasons for such behaviour.

Limitations: No attempt was made to control for the effects of participants' psychological states during assessments. The researcher assumed that all participants completed questionnaires to the best of their ability and that their reader's reading ability was sufficient for understanding and responding to all written instructions provided in this study. The researcher assumed that all participants responded openly, honestly, and in accordance with their perceptions of all psychological scales. No attempt was made to control for extraneous variables that could have influenced question responses. Studies on exercise addiction and passionate relationships or commitment levels from high to moderate should use a sport-specific approach in the future.

Author contributions: Conceptualization, Bala; Methodology, Bala, & Manglani,; Data Collection, Bala ; Data analysis, Bala, Manglani, & Aggarwal; Writing—original draft preparation, Bala; Writing—review and editing, Bala, and Manglani. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The Authors declare that there is no conflict of interest.
Acknowledgements: We are thankful to all the participants for providing their valuable time for this research.

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