Energy Availability & Disordered Eating

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IOC article

Outline

Normal eating

Disordered eating among athletes

Relative energy deficiency in sport (RED-S)

“Normal” Eating

Eat when you are hungry and continue eating until you are satisfied.

is being able to choose food you like and eat it and truly get enough of it - not just stop eating because you think you should.

is being able to use some moderate restraint in your food selection to get healthful food, but not so restrictive that you miss out on pleasurable food…

takes up some of your time and attention, but it keeps its place as only one important area of your life.

In short, normal eating is flexible (Satter, 1987)

Normal eating for an athlete

An athlete’s diet may be more constrained and less flexible due to the demands of training but it is not an obsession

Eating Continuum

Effective & successful athletic bodies come in all shapes and sizes

Prevalence

Difficult to study and determine

As low as 1.3% (AN in female athletes)

As high as 20% (any ED)

As high as 62% for DE

Potential triggers

In females, “dieting” may be an important trigger

In males, injury or overtraining may be important triggers

Mind set: success = extreme leanness

Higher Risk Athletes

Aesthetic sports

Gymnastics, figure skating, diving, ballet, cheer

Bodybuilding

Sports with weight restrictions

Boxing, jockeys, rowing, martial arts, wrestling

Sports in which weight must be moved

Middle or long distance running, ski jumping, X-C skiing, cycling, track events

Sports with revealing clothing

Swimming, diving, bodybuilding, volleyball

Similar traits

Greater risk than non-athletes:

Personality traits

Driven, goal-oriented, perfectionist-striving

Tolerant of pain & discomfort

Timing

Stress of adolescence + stress of training and competition

Identity: “being an athlete”

Come to sport with DE vs. developing DE while in sport

Coach’s influence

Coaches can compound the problem

Authority figure

Decision-maker

Triggered by an off-hand comment

67% of female collegiate gymnasts reported that their coaches said they weighed too much

75% of them used unhealthy weight loss strategies involving vomiting, laxatives or diuretics

Under eating can -> cascade of metabolic changes & decreased performance

Weight-classed sports:

>85% use unsafe wt loss strategies

For most, symptoms of ED subside upon retirement

Muscle Dysmorphia

Muscle dysmorphia:

pathological preoccupation w/ muscle size & overall muscularity

Many men perceive that the ideal body has ~28 pounds more “muscle” than their own

Coincided with an increase in the number of men:

using anabolic steroids

experiencing eating disorders

suffering from body obsession

Muscle Dysmorphia

Strength exercisers w/ muscle dysmorphia are likely to:

Report that they are mostly dissatisfied w/ their body

Have/had mood, anxiety or eating DO

> 3 hours/d thinking about their muscularity

Avoid people & activities d/t their perceived defect

Little or no control over compulsive wt lifting and diet

Stop doing activities they once enjoyed

Contextual Body Image

Ideal for sport vs. Ideal for society

IOC & Female Athlete Triad

Stress fractures & Osteoporosis

Low bone mineral density and structural deterioration

Result of low estrogen concentration (?)

Greater risk for stress fractures

Early intervention is important

Prevalence of Stress Fractures According to Menstrual History

Energy availability

EA = kcals in – kcals expended

 LBM

Low EA = < 30 kcals/kg LBM

Desirable = ~45 kcals/kg LBM

Relative Energy Deficiency in Sports

Performance Effects