



Relative Energy Deficiency in Sports (RED-s): Impact on Female Athletes in Team Sports

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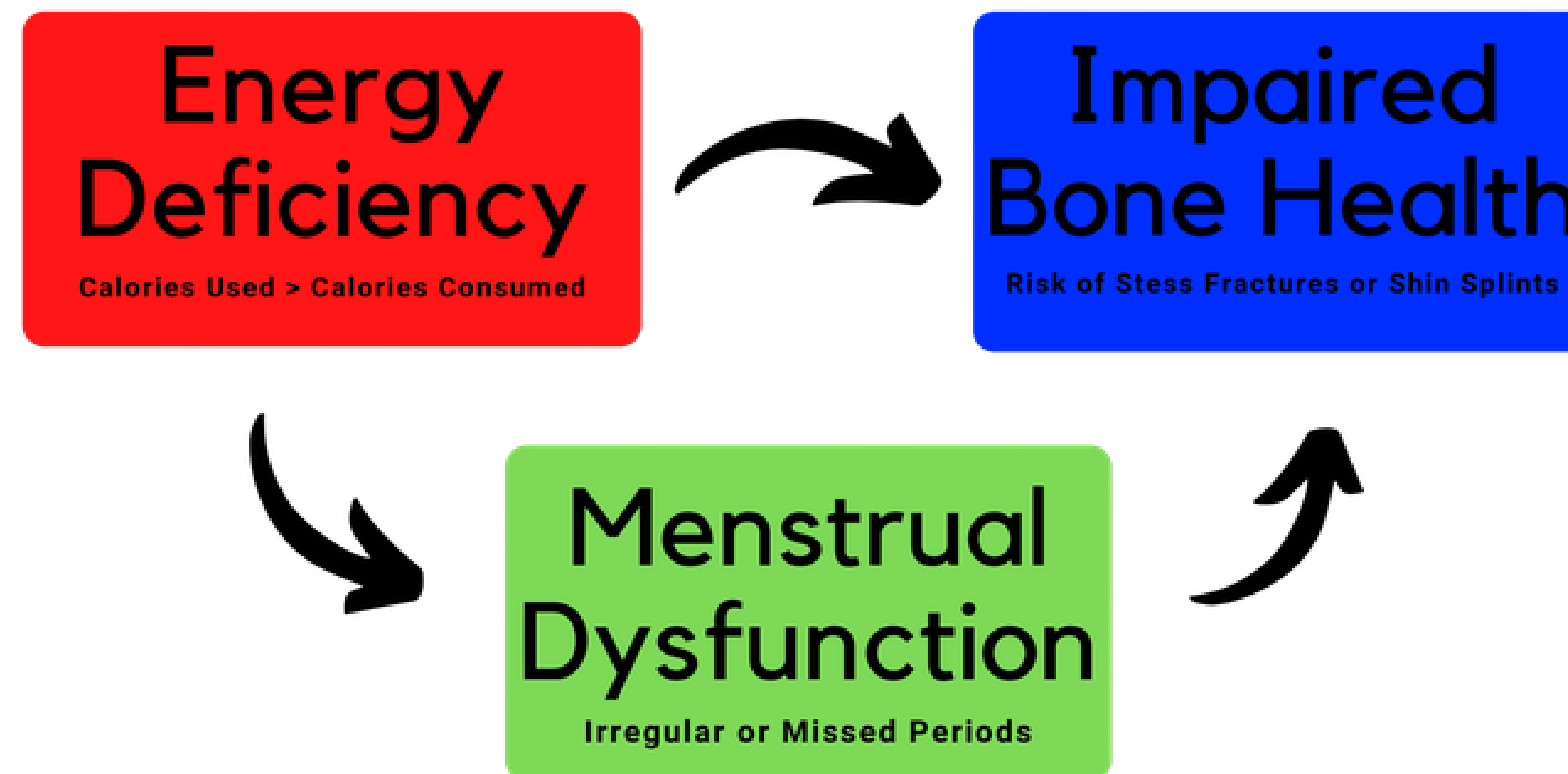
Introduction:

RED-s refers to a condition that occurs when athletes' energy intake is less than their energy demands during training or competition. Low energy availability (LEA) may contribute to menstrual dysfunction and decrease bone mineral density resulting in an increased injury risk. Historically, research on RED-s has been focused on individual sports with high endurance. In order to maximize female players performance in team sports it is vital to understand how RED-s might effect the team sport player and implement potential solutions. This review aims to study how RED-s might impact performance in female team sports players with the hypothesis that RED-s negatively affects female athletes' performance

Methods:

Medline, Sports-Discuss, CINHAI Complete, Health Source: Nursing/Academic Edition databases were used
key words to search the database: "Relative Energy Deficiency in Sports" OR "RED-S" OR "Female Athlete Triad" OR "Low Energy Availability" "Female Athletes" OR "Women Athletes" OR "Athletic Females" OR "Sportswomen" and "Team Sports".
Data was extracted by the following: author, year, country, population, age range, setting, study design, % LEA, % Injured, instrument and menstrual issue %
Studies must report at least one of the following outcomes: injury prevention, stress fractures, bone health or menstrual dysfunction

Results:




Dance/cheerleading

Averages

LEA: 28%
% Injured 64.7%
MD: 62%



Lacrosse

LEA: 100%



Soccer

LEA: 45.5%,
% Injured 70%
MD: 38.9%



Crossfit

LEA: 34%
% Injured 49.6%
% MD: 5.5%

Results:

Regardless of geographic location, all 8 included studies demonstrated that young and competitive female athletes, at all levels including high school, college and professionals were susceptible to menstrual irregularities, injury and LEA.

Health implications:

The signs and symptoms of RED-s should be taught to coaches, trainers and players. Early screening will help catch RED-s before it causes further issues. Future studies should focus on conducting high-quality longitudinal studies. This review supports the case that RED-S presents an urgent and multifaceted concern for team sport female athletes, as not only does it affect them physically and in terms of performance, but it is also inextricably linked to psychological wellness.

References:

