



Eating Disorders and Dietary Supplements: A Review of the Science

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Review

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Abstract: Disordered eating is a serious health concern globally. The etiology is complex and multidimensional and differs somewhat for each specific eating disorder. Several risk factors have been identified which include psychological, genetic, biochemical, environmental, and sociocultural factors. Poor body image, low self-esteem, teasing, family dynamics, and exposure to media images have also been identified as risk factors. While it is enticing to consider a single behavioral risk factor, doing so fails to consider the documented environmental, social, psychological, biological, and cultural factors that contribute to the development of an eating disorder in a multidimensional and complex integration that is undoubtedly unique to everyone. Focusing only on any one factor without taking the complex etiology into account is remiss. For example, it has been suggested that the use of dietary supplements may lead to eating disorders, despite a lack of evidence to support this conjecture. Therefore, the purpose of this review is to examine the evidence-based risk factors for eating disorders and discuss why connecting dietary supplements to eating disorder etiology is not supported by the scientific literature and may interfere with treatment. Established, effective prevention and treatment approaches for eating disorders should be the focus of public health initiatives in this domain.

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Eating Disorders

Complex, multidimensional mental health conditions characterized by abnormal eating habits and significant concerns with body image.

- **A serious global health concern:** affects people of all genders, though primarily women
- **Multidimensional etiology**
 - Factors:
 - Psychological
 - Genetic
 - Biochemical
 - Environmental
 - Sociocultural

Known Risk Factors of Eating Disorders

- Complex, multidimensional etiology with co-occurring conditions like **depression, anxiety and obsessive-compulsive disorder (OCD)**
- Major risk factors include:
 - **Negative body image** and **low self-esteem**
 - **Environmental stressors:** Social media, societal pressure, and exposure to media promoting idealized body images.
 - **Sociocultural standards:** Unrealistic beauty standards further increase the risk of disordered eating.

Longitudinal research highlights body image dissatisfaction as a primary predictor of eating disorders in women.

Triggers for Eating Disorders

: events or factors that provoke disordered eating behaviors as coping mechanisms

- Types of triggers:
 - **Food composition:** Specific nutrient content in food may act as a trigger.
 - **Environmental variables:** Location, smells, and particular settings may provoke eating disorder behaviors.
 - **Dysfunctional relationships:** Relationship stress may act as a significant emotional trigger.
- **No evidence** supporting dietary supplements as triggers for eating disorders.

Dietary Supplement use in Adolescents

- Use of diet pills has drastically decreased:
 - **1982:** **21%** of high school students reported using diet pills.
 - **2022:** Only **1.6%** reported using diet pills.
- Most commonly used supplements:
 - **Multivitamin/mineral supplements:** Used by **17.3%** of adolescents.
 - **Protein supplements:** Most widely used by adolescent athletes, primarily for **muscle gain**.
 - **Vitamin D:** The second most commonly used supplement, at **5.4%**.
- Motivations:
 - **Health improvement** and **athletic performance** rather than weight loss or body image issues.

Debunking Myths: Dietary Supplements and Eating Disorders

- **Activist claims:** Some organizations have falsely linked dietary supplements, such as weight loss products, to eating disorders.
- **Flawed studies:**
 - One study grouped **dietary supplements with illegal drugs**, like anabolic steroids, leading to misrepresentations in data.
 - Another survey asked participants if they used **non-prescribed products** for weight control, conflating **diet pills and dietary supplements** with other over-the-counter medications, creating a misleading correlation.
- **No causal link** established between dietary supplements and eating disorders.

Studies alleging a connection between dietary supplements and eating disorders are based on **non-validated surveys and misclassified substances**.

Role of Dietary Supplements in Eating Disorder Treatment

- Dietary supplements are commonly prescribed in eating disorder recovery as part of a **nutrition plan of care**.
- Examples include:
 - **Multivitamins** to address nutritional deficiencies.
 - **Protein supplements** for calorie and protein intake.
 - **Calorie-protein supplements** for weight restoration.
- The **Academy of Nutrition and Dietetics (AND)** includes supplements in their **standards of care** for treating eating disorders.

Effective Prevention Programs

- **Dissonance-based prevention** (The Body Project):
 - Reduce future eating disorder onset by **54–77%**.
 - Built on **cognitive-dissonance theory**, these programs target sociocultural pressures and body dissatisfaction.
- **Third-wave behavioral interventions**:
 - Programs such as **Acceptance and Commitment Therapy (ACT)** and **Dialectical Behavior Therapy (DBT)** focus on changing cognitive processes rather than specific behaviors.
 - A **meta-analysis** of 24 studies showed **modest improvements** in eating disorder risk factors through these interventions.
- **Healthy lifestyle modification** programs have also been shown to significantly reduce future eating disorder onset.



Thank You!

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