

**Figure X. MUSCLE DYSMORPHIA – From Outward Behaviors to Psychopathology to Proposed Interventions**

**Behavioral Presentation**

**DIET**

**compulsive focus on nutrition**

- excessively protein-centered diets
- near-phobic avoidance of sugars and processed forms of fat and carbohydrate
- exceptionally high Calorie intake

**high reliance on nutritional supplements**

**heavy emphasis on meal timing**

**avoidance of social situations involving eating**

**PHYSICAL ACTIVITY**

**excessive exercise (“exercise dependence”)**

- resistance training (muscle growth)
- cardiovascular training (fat reduction)
- lifestyle revolves around training

**unrealistic performance expectations**

- preoccupation with achieving a competitive advantage
- preoccupation with achieving an appearance advantage

**unhealthy athletic performance-related behaviors**

- training despite interference with work or social commitments
- training despite concurrent injury

**SUBSTANCE ABUSE**

**anabolic androgenic steroids**

**reliance on inappropriate medications**

e.g. amphetamine-based stimulants, prescription opiates

**recreational drugs**

**Psychiatric Symptoms**

**COGNITIVE DISTORTION**

- functionally-impairing low self-esteem
- obsessive thoughts about body image and individual body parts

**BEHAVIORAL RIGIDITY**

- compulsive behaviors regarding food/fluid intake and exercise
- mirror checking
- compulsive comparison with others

**EMOTIONAL DYSREGULATION**

- mood dependent on appearance
- mood dysregulation 2<sup>o</sup> to substance abuse

**SOCIAL ANXIETY**

- avoidance of being seen in public
- wearing camouflaging clothing

**MUSCLE DYSMORPHIA**

**Proposed Interventions**

**identification and treatment of comorbid psychiatric issues**

- eating disorders, mood disorders, obsessive-compulsive disorder
- anxiety, substance abuse

**cognitive behavioral therapy**

- 1:1 psychotherapy
- all-male psychotherapy groups

**pharmacologic options**

- SRIs
- atypical antipsychotics
- anxiolytics

**structured exercise program**

deemphasizing resistance training

**nutrition education**

- assessment by registered dietitian
- revised meal plan

**assessment instruments** (see Tables X,Y)

- Male Body Attitudes Scale (MBAS)
- Drive For Muscularity Scale (DMS)
- Muscle Dysmorphia Inventory (MDI)
- Muscle Dysmorphia Symptom Questionnaire (MDSQ)
- Muscle Appearance Satisfaction Scale (MASS)
- Eating Disorder Examination 12<sup>th</sup> ed