Validity of the Eating section of the modified Addiction Severity Index

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Abstract

Aims: To assess the validity of the Eating section of the modified Addiction Severity Index (mASI).

Methods: Within the Aquitaine Addiction Cohort (an ongoing cohort of addiction treatment seeking patients) we selected participants who reported at least one day of food problem past 30 days at intake; and randomly selected participants who did not report food problem but sought treatment in the same time period. They were assessed with the mASI, a craving scale, DSM-5 criteria for eating disorders and putative Food Addiction (FA) criteria modeled on DSM-5 substance use disorder criteria, and Body Mass Index (BMI) was calculated.

Results: 470 subjects were included, 48.7% males, 37.6 y.o., seeking treatment for alcohol (28.7%), cannabis (20.6%), tobacco (15.3%), opiates (8.9%), cocaine (5.3%), eating disorder (20.2%), gambling (7.0%). Although a minority sought treatment for eating disorder, 49.5% reported at least one day of eating problem past 30 days. They were more likely women (Chi²= 65.0, p<.0001), and more likely to exhibit an abnormal BMI (Chi²= 30.0, p<.0001). Subjects who received an Eating severity score of the mASI higher than 4 (need for additional treatment) reported significantly more days (t=18.7, p<.0001) and more years of food problem (t= 14.5, p<.0001), were more bothered by food problem (t=31.1, p<.0001), and were more likely to report craving for food (Chi²= 4.8, p<.0001). They met significantly more often DSM-5 eating disorder diagnoses (Chi²= 130.4, p<.0001) and FA criteria (Chi²= 130.4, p<.0001).

Conclusions: The mASI appeared to be a useful and valid tool to evaluate eating behavior in substance-related or addictive disordered patients.

Background

- **Eating Disorder (ED)**
  - Anorexia, Bulimia, Binge Eating Disorder
  - Serious disturbance in eating behavior
  - Comorbidity with substance use disorders, depression and anxiety disorders (Becker 2015)
  - Similarities between ED and addictive disorder (Schreiber 2013, Curtis 2014)
- **Addiction Severity Index**
  - Most used worldwide tool for assessing substance use (McLellan, 2006)
  - Modified ASI (mASI)
    - 3 new domains: Tobacco, Gambling, Food
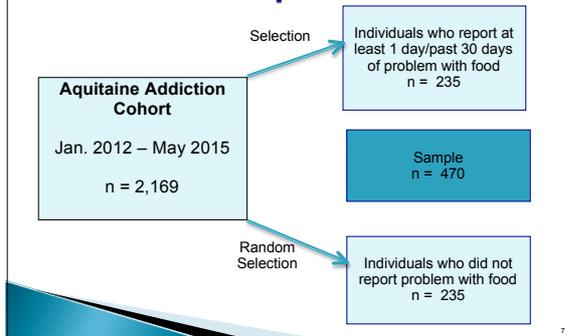   - Validation of Tobacco and Gambling sections (Denis, 2015)

Objective

- **To assess the validity of the Eating section of the mASI**
  - **In individuals who sought treatment for at least one addiction (substance and non-substance)**
  - **Aquitaine Addiction Cohort, France**

Methods - Sample

Selection → Individuals who report at least 1 day/past 30 days of problem with food
n = 235

Aquitaine Addiction Cohort

Jan. 2012 – May 2015

n = 2,169

Sample
n = 470

Random Selection → Individuals who did not report problem with food
n = 235

Methods - Assessment

- Food section of the mASI
- Mini International Neuropsychiatric Interview (MINI)
  - DSM-5 Diagnosis of Eating Disorders: Anorexia, Bulimia and Binge Eating Disorder
  - Diagnoses of other psychiatric comorbidities: DSM-5 Substance Use Disorder, gambling, mood disorders, anxiety disorders
- Food Addiction
  - DSM-5 criteria for Substance-related and addictive disorders adapted for Food Addiction
  - Diagnosis of food addiction: at least 2 criteria
  - Severity: Mild (2-3 criteria); Moderate (4-5 criteria); Severe (6+ criteria)
- Visual Analog Scale for Food Craving: Craving for sweet, craving for fat
- Body Mass Index (BMI)
  - WHO Classification: Underweight: <18.5; Normal weight: 18.5 – 24.9; Overweight: ≥25.0

Results – Sample characteristics

- n= 470
- Males: 48.7%
- Mean age: 37.6 y.o. (SD= 11.9) – range: 18-75
- Seeking treatment for

Substance		Non-substance	
Alcohol	28.7%	**Eating/ Food problem**	**20.2%**
Cannabis	20.6%	Gambling	7.0%
Tobacco	15.3%	Other non-substance	2.8%
Opiates	8.9%		
Cocaine/ Amphet.	5.3%		
Benzos.	4.7%		

- BMI

Underweight	6.7%
Normal weight	35.1%
Overweight	58.2%

Results – Eating variables

- Current food problem at least one day past 30 days (n= 235, 50%)
  - Past 30 days: 21.2 days (SD=11.3)
  - Lifetime: 12.5 years (SD= 11.2)
- Need treatment for food disorder
  - Eating mASI severity score >4: 40.0% (n=187)
  - Only half of them sought treatment for eating problem: 20.2% (n=95)
- Meet DSM-5 criteria for Eating Disorders (anorexia, bulimia, BED)
  - 17.9% (n=84)
- Meet criteria for Food Addiction
  - 31.6% (n=71)   Mild: 5.8%; Moderate: 13.8%; Severe: 12.0%
- Comorbidity is highly prevalent

With alcohol use disorder	24.2%
With drug use disorder	45.9%
With tobacco use disorder	54.0%

Results – Associations with food problem

- Participants who reported mASI current food problem were more likely
  - Female (chi^2= 65.0, p< 0.0001)
  - Sought treatment for eating disorder (chi^2= 104.5, p< 0.0001)
  - Exhibited an abnormal BMI
    - Average 36.9 vs. 26.1 (t= 8.2, p<0.0001)
    - More likely to be underweight or overweight (chi^2= 39.0, p< 0.0001)
  - Met eating disorder diagnosis (chi^2= 97.5, p< 0.0001)
  - Met food addiction diagnosis
   - 81% versus 19% (chi^2= 91.6, p< 0.0001)

Results – Associations with need for food/ eating disorder treatment (1)

- mASI Food/ Eating Severity Score >4 associated with
  - More days of food/eating problems past 30 days (21.4 vs. 2.9, t= 18.7, p<0.0001)
  - More years of food/eating problem lifetime (13.9 vs. 1.0, t= 14.5, p<0.0001)
  - More previous treatment for food/eating problem (2.0 vs. 0.2, t=5.9, , p<0.0001)
  - More bothered by food/eating problem
    - More days past 30 days (23.6 vs. 1.5, t= 26.0, p< 0.0001)
    - Higher intensity (0-4 scale) (2.9 vs. 0.2, t= 31.1, p<0.0001)
  - More likely to report needs for treatment (0-4 scale) (2.8 vs 0.1, t= 24.3, p<0.0001)
  - Higher frequency of craving past 30 days
    - For sweet (9.0 days vs. 1.3 days, t= 4.8, p<0.0001)
    - For fat (3.8 days vs. 1.0, t= 2.4, p= 0.02)

Results – Associations with need for food/ eating disorder treatment (2)

- mASI Food/ Eating Severity Score >4 were more likely
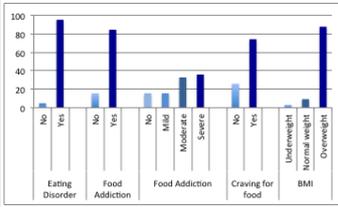
- To meet ED diagnosis (chi²=130.4, p<0.0001)
- To meet Food Addiction diagnosis (chi²=130.4, p<0.0001)
  - Correlation between nb. of criteria and severity (r=0.58, p<0.0001)
- To report craving for food (chi²=18.3, p<0.0001)
- To exhibit abnormal BMI (chi²=32.9, p<0.0001)

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Conclusions

- mASI appeared to be a useful tool to assess eating behavior
  - In substance related disorder
  - In non-substance addictive behavior
- mASI allowed to identify half of the cases with eating behavior problem who did not recognize eating/food problem
- mASI eating/food severity score is linked to
  - Eating disorder diagnosis
  - Food Addiction diagnosis
  - Craving for food
  - BMI

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Perspectives

- Validation of the mASI Eating behavior section in
  - Underweight samples
  - Anorexia
  - Samples with less substance use disorder comorbidity

- Need to use other eating disorder assessment tools as validity battery
  - Yale Food Addiction Scale (Gearhardt 2009, Meule 2014)
  - Eating Disorder Examination Questionnaire (EDE-Q) (Fairburn 2008)

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