Eating Disorders Update 2019

Stephen Wonderlich, Ph.D.
Vice President, Sanford Research
Chester Fritz Distinguished Professor
Department of Psychiatry & Behavioral Sciences
University of North Dakota School of
Medicine & Health Sciences

Supported by funding from NIMH
5 RO1 MH59674, 2 RO1 MH59674, 1 R34 MH098995

Objectives

1. Review diagnosis, comorbidity, risk, and treatment of ED.
2. Discuss the complexity of severe and enduring EDs.
3. Possibly discuss ICAT???

Part 1: Overview: Diagnosis, Comorbidity, and Risk

Eating Disorders: The Big Issue (Schmidt et al; Lancet)

- Peak age of onset: 15-25 years.
- Average duration of disorder: 6 years.
- AN and BN more common in young women, but men/boys affected; BED equally split between genders.
- EDs diagnosed in people at increasingly younger ages.
- AN is one of the most common chronic illnesses of adolescence- similar to incidence rates of Type I Diabetes in rates.

Eating Disorders: The Big Issue (Schmidt et al; Lancet)

- Mortality rates for EDs are 2x general population and AN is 6x greater.
- 1 of 3 people with BN or BED will become obese.
- 1 in 4 ED patients is unemployed.
- Women with EDs are more likely to stay childless and need fertility treatment to conceive.
- Women with ED have significant problems feeding and interacting with their children.

Eating Disorders: The Big Issue (Schmidt et al; Lancet)

- Caregivers of ED patients spend nearly twice as much time care-giving (24 h/week vs. 14 h/week) than caregivers of patients with other disorders (e.g. cancer, psychosis, dementia).
- Recent estimates: 20 million people in Europe have an ED with a cost of 1 trillion Euros per year (financial cost-249 billion and burden of disease cost-763 billion)

DSM-5 Criteria for Anorexia Nervosa

A. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.

B. Intense fear of gaining weight or becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight.

C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

DSM-5 Criteria for Bulimia Nervosa

A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:

   1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances.

   2. A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)

B. Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, and other medications; fasting; or excessive exercise.

C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 months.

D. Self-evaluation is unduly influenced by body shape and weight.

E. The disturbance does not occur exclusively during episodes of anorexia nervosa.

DSM-5 Criteria for Binge Eating Disorder

A. Recurrent episodes of binge eating.

B. The binge-eating episodes are associated with three (or more) of the following:
1. eating much more rapidly than normal
2. eating until feeling uncomfortably full
3. eating large amounts of food when not feeling physically hungry
4. eating alone because of being embarrassed by how much one is eating
5. feeling disgusted with oneself, depressed, or very guilty after overeating

C. Marked distress regarding binge eating is present.

D. The binge eating occurs, on average, at least once a week for 3 months.

E. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

Other Feeding and Eating Disorders

1. Rumination disorder
2. PICA
3. Avoidant restrictive food intake disorder (ARFID)

Comorbidity/Associated Problems

Lifetime Psychiatric Diagnoses in ED Patients

	ANR	ANBP	BN
Depression [median %(N)]	40 (5)	73 (5)	48.5 (8)
OCD [median %(N)]	20 (7)	20 (6)	15 (8)
Social Phobia [median %(N)]	26 (4)	28 (4)	18.5 (4)
Panic [median %(N)]	9 (8)	14 (5)	10 (7)
Substance Use [median %(N)]	5 (5)	15 (4)	22.5 (6)
Phobia [median %(N)]	15 (3)	18 (3)	12 (3)

Zonnevylle-Bender et al., 2004; Kaye et al., 2004; Bulik et al., 2004; Binford & leGrange, 2005; Godart et al., 2004; Ricca et al., 2001; Halmi et al., 1991; Herzog et al., 1992; Brewerton et al., 1995; Fornari et al., 1991; Braun et al., 1994

Psychological Medicine, 2004, **34**, 1395–1406. © 2004 Cambridge University Press
DOI: 10.1017/S0033291704002673 Printed in the United Kingdom

Twelve-year course and outcome of bulimia nervosa

MANFRED M. FICHTER* AND NORBERT QUADFLIEG

Department of Psychiatry, University of Munich; Klinik Roseneck–Hospital for Behavioural Medicine, Prien, Germany

Twelve Year Course and Outcome of BN

- 196 females met DSM IV criteria for BN
- Admitted to ED hospital in Bavaria between 1985 and 1988
- Interview based assessment of ED and psychiatric comorbidity
- Assessed at admission, d/c, 2yr, 6yr, and 12yr follow-up

Twelve Year Course and Outcome of BN

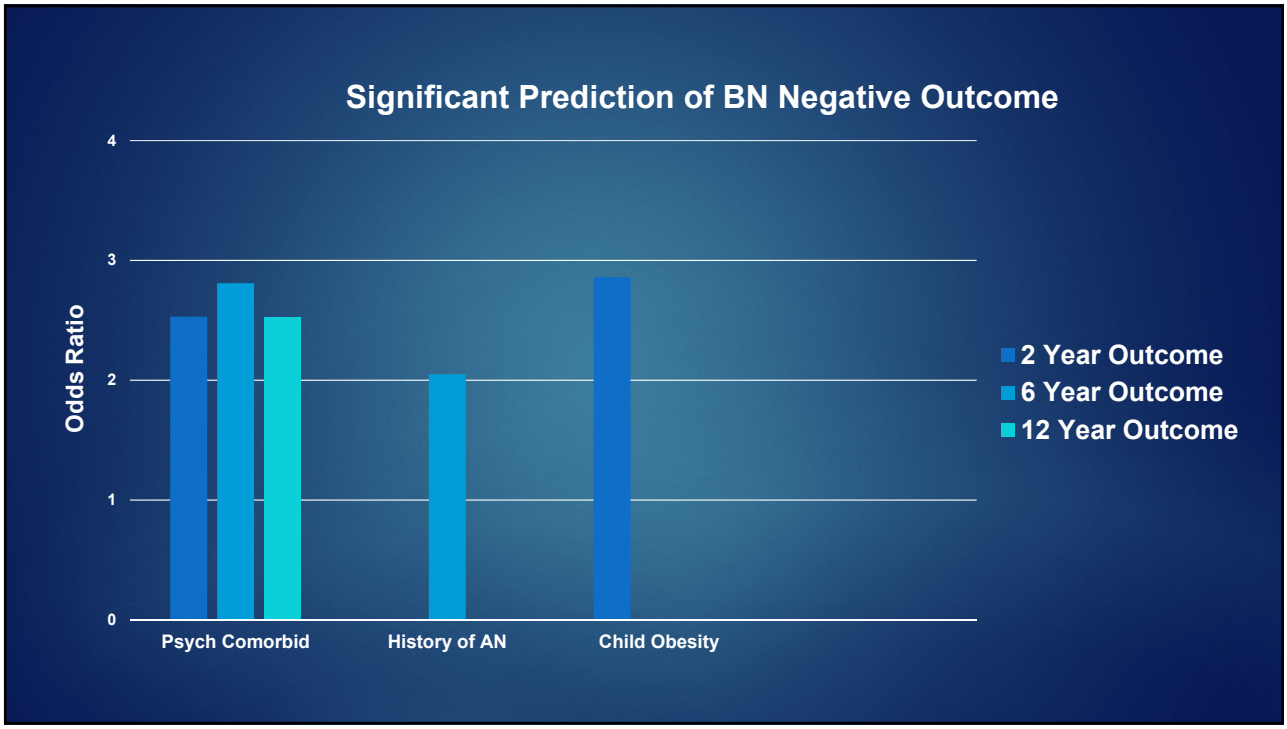
12 year follow up

- 167 patients assessed
- 117 (70.1%) recovered
- Standardized mortality: 2.36

Twelve Year Course and Outcome of BN

Predictor Analysis (Baseline predictors ⟶ 12 year outcome)

1. Presence of lifetime psychiatric disorder (+ BN)
2. History of AN
3. Childhood obesity
4. Age of onset
5. Duration of illness
6. Frequency of binge episodes
7. Previous treatment



Predisposing Factors

Advances in Genomics and Genetics

Dove

REVIEW

Genetics and epigenetics of eating disorders

Zeynep Yilmaz[1]
J Andrew Hardaway[1]
Cynthia M Bulik[1–3]

[1]Department of Psychiatry, [2]Department of Nutrition, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA; [3]Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden

Video abstract

Abstract: Eating disorders (EDs) are serious psychiatric conditions influenced by biological, psychological, and sociocultural factors. A better understanding of the genetics of these complex traits and the development of more sophisticated molecular biology tools have advanced our understanding of the etiology of EDs. The aim of this review is to critically evaluate the literature on the genetic research conducted on three major EDs: anorexia nervosa, bulimia nervosa, and binge eating disorder. We will first review the diagnostic criteria, clinical features, prevalence, and prognosis of anorexia nervosa, bulimia nervosa, and binge eating disorder, followed by a review of family, twin, and adoption studies. We then review the history of genetic studies of EDs covering linkage analysis, candidate-gene association studies, genome-wide association studies, and the study of rare variants in EDs. Our review also incorporates a translational perspective by covering animal models of ED-related phenotypes. Finally, we review the nascent field of epigenetics of EDs and a look forward to future directions for ED genetic research.

Keywords: anorexia nervosa, binge eating disorder, bulimia nervosa , animal models, genome-wide association studies, high-throughput sequencing

Overview of eating disorders

Eating disorders (EDs) are serious psychiatric conditions with significant morbidity and mortality. That EDs have a genetic component may come as a surprise to many due to widespread misperception of them being disorders of volition. Research over the past decade has confirmed that genes do indeed play a role, and animal models of core related phenotypes are assisting with defining the underlying biology of these pernicious illnesses. In this review, we focus on three major EDs: anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED). Most of the genetic research has focused on AN and BN; less information is available for BED due to its status as a newly recognized ED diagnosis.

Anorexia nervosa

AN (International Classification of Diseases, 10th revision [ICD-10]: F50.00) is a serious ED with substantial morbidity and the highest lifetime mortality among psychiatric disorders.[1–3] Low weight or body mass index (BMI) is the sine qua non of AN and the primary target of initial treatment.[4,5] Symptoms of AN include persistent restriction of food intake, an intense fear of gaining weight or persistent behavior that interferes with weight gain, and a distorted body image.[6] There are two subtypes of AN: restricting subtype (ICD-10: F50.01) and binge/purge subtype (ICD-10: F50.02).[6]

Correspondence: Cynthia M Bulik
Department of Psychiatry, University of North Carolina at Chapel Hill, CB #7160, 101 Manning Drive, Chapel Hill, NC 27599-7160, USA
Tel +1 919 843 1689
Fax +1 919 966 5628
Email cbulik@med.unc.edu

Biological Factors

REGULAR ARTICLE

5-HT$_{1A}$ Receptor Binding Is Increased After Recovery from Bulimia Nervosa Compared to Control Women and Is Associated with Behavioral Inhibition in Both Groups

Ursula F. Bailer, MD[1,2]
Cinnamon S. Bloss, PhD[3]
Guido K. Frank, MD[4]
Julie C. Price, PhD[5]
Carolyn C. Meltzer, MD[6]
Chester A. Mathis, PhD[5]
Mark A. Geyer, PhD[2]
Angela Wagner, MD[2]
Carl R. Becker, BS[5]
Nicholas J. Schork, PhD[3]
Walter H. Kaye, MD[2]*

ABSTRACT

Objective: Because altered serotonin (5-HT) function appears to persist after recovery from bulimia nervosa (RBN), we investigated the 5-HT$_{1A}$ receptor, which could contribute to regulation of appetite, mood, impulse control, or the response to antidepressants.

Method: Thirteen RBN individuals were compared to 21 healthy control women (CW) using positron emission tomography and [carbonyl-^{11}C]WAY100635 ([^{11}C]WAY).

Results: RBN had a 23–34% elevation of [^{11}C]WAY binding potential $(BP)_P$ in subgenual cingulate, mesial temporal, and parietal regions after adjustments for multiple comparisons. For CW, [^{11}C]WAY BP_P was related negatively to novelty seeking, whereas for RBN, [^{11}C]WAY BP_P was related positively to harm avoidance and negatively related to sensation seeking.

Discussion: Alterations of 5-HT$_{1A}$ receptor function may provide new insight into efficacy of 5-HT medication in BN, as well as symptoms such as the ability to inhibit or self-control the expression of behaviors related to stimulus seeking, aggression, and impulsivity. © 2010 by Wiley Periodicals, Inc.

Keywords: bulimia nervosa; 5-HT$_{1A}$ receptor; positron emission tomography; behavioral inhibition; subgenual cingulate; mesial temporal cortex

(Int J Eat Disord 2010; 00:000–000)

Personality Factors

Personality subtyping and bulimia nervosa: psychopathological and genetic correlates

STEPHEN A. WONDERLICH[1]*, ROSS D. CROSBY[2], THOMAS JOINER[3], CAROL B. PETERSON[4], ANNA BARDONE-CONE[5], MARJORIE KLEIN[6], SCOTT CROW[4], JAMES E. MITCHELL[1], DANIEL LE GRANGE[7], HOWARD STEIGER[8], GREG KOLDEN[6], FRANK JOHNSON[2] AND SUZANNE VRSHEK[2]

[1] *University of North Dakota School of Medicine and Health Sciences, Neuropsychiatric Research Institute, ND, USA*; [2] *Neuropsychiatric Research Institute, ND, USA*; [3] *Florida State University, FL, USA*; [4] *University of Minnesota, MN, USA*; [5] *University of Missouri, MO, USA*; [6] *University of Wisconsin, WI, USA*; [7] *The University of Chicago, IL, USA*; [8] *McGill University, Quebec, Canada*

ABSTRACT

Background. There is empirical evidence suggesting that individuals with bulimia nervosa vary considerably in terms of psychiatric co-morbidity and personality functioning. In this study, latent profile analysis was used to attempt to identify clusters of bulimic subjects based on psychiatric co-morbidity and personality.

Method. A total of 178 women with bulimia nervosa or a subclinical variant of bulimia nervosa completed a series of self-report inventories of co-morbid psychopathology and personality, and also provided a buccal smear sample for genetic analyses.

Results. Three clusters of bulimic women were identified: an affective-perfectionistic cluster, an impulsive cluster, and a low co-morbid psychopathology cluster. The clusters showed expected differences on external validation tests with both personality and eating-disorder measures. The impulsive cluster showed the highest elevations on dissocial behavior and the lowest scores on compulsivity, while the affective-perfectionistic cluster showed the highest levels of eating-disorder symptoms. The clusters did not differ on genetic variations of the serotonin transporter gene.

Conclusions. This study corroborates previous findings suggesting that the bulimia nervosa diagnostic category is comprised of three classes of individuals based on co-morbid psychopathology and personality. These differences may have significant etiological and treatment implications.

Childhood Stress

Effects of multiple forms of childhood abuse and adult sexual assault on current eating disorder symptoms

Sarah Fischer *, Monika Stojek, Erin Hartzell

The University of Georgia, United States

ARTICLE INFO

Article history:
Received 27 August 2009
Received in revised form 9 December 2009
Accepted 5 January 2010

Keywords:
Bulimia
Emotional Abuse
Sexual Assault

ABSTRACT

The objective of this study is to examine the effect of recent adult sexual assault on current eating disorder symptoms when controlling for the effects of multiple forms of childhood abuse. A total of 489 undergraduate women completed the Eating Disorder Examination-Questionnaire, and surveys regarding childhood abuse and sexual assault that had occurred in the previous three months. Approximately 30% of the sample indicated recent unwanted sexual experiences. Childhood emotional abuse contributed unique variance to the prediction of current ED symptoms, but sexual and physical abuse did not. Recent sexual assault contributed additional unique variance to current ED symptoms when controlling for childhood abuse, thus both emotional abuse in childhood and sexual assault in adulthood contributed unique variance to ED symptoms.

Published by Elsevier Ltd

Weight & Performance-Related Activities

Aspects of disordered eating continuum in elite high-intensity sports

J. Sundgot-Borgen[1], M. K. Torstveit[2]

[1]The Norwegian School of Sport Sciences, the Sports Medicine Department, Oslo, Norway, [2]Faculty of Sport and Health, University of Agder, Kristiansand, Norway
Corresponding author: Jorunn Sundgot-Borgen, The Norwegian School of Sport Sciences, the Sports Medicine Department, PO Box 4014, Ullevaal stadion, 0806 Oslo, Norway. Tel: +47 23 26 23 35, Fax: +47 22 23 42 20, E-mail: jorunn.sundgot-borgen@nih.no

Accepted for publication 18 April 2010

Dieting is an important risk factor for disordered eating and eating disorders. Disordered eating occurs on a continuum from dieting and restrictive eating, abnormal eating behavior, and finally clinical eating disorders. The prevalence of eating disorders is increased in elite athletes and for this group the cause of starting to diet is related to (a) perception of the paradigm of appearance in the specific sport, (b) perceived performance improvements, and (c) sociocultural pressures for thinness or an "ideal" body. Athletes most at risk for disordered eating are those involved in sports emphasizing a thin body size/shape, a high power-to-weight ratio, and/or sports utilizing weight categories, such as in some high-intensity sports. In addition to dieting, personality factors, pressure to lose weight, frequent weight cycling, early start of sport-specific training, overtraining, injuries, and unfortunate coaching behavior, are important risk factors. To prevent disordered eating and eating disorders, the athletes have to practice healthy eating, and the medical staff of teams and parents must be able to recognize symptoms indicating risk for eating disorders. Coaches and leaders must accept that disordered eating can be a problem in the athletic community and that openness regarding this challenge is important.

Socio-Cultural Factors

Body Image 10 (2013) 182–190

Contents lists available at SciVerse ScienceDirect

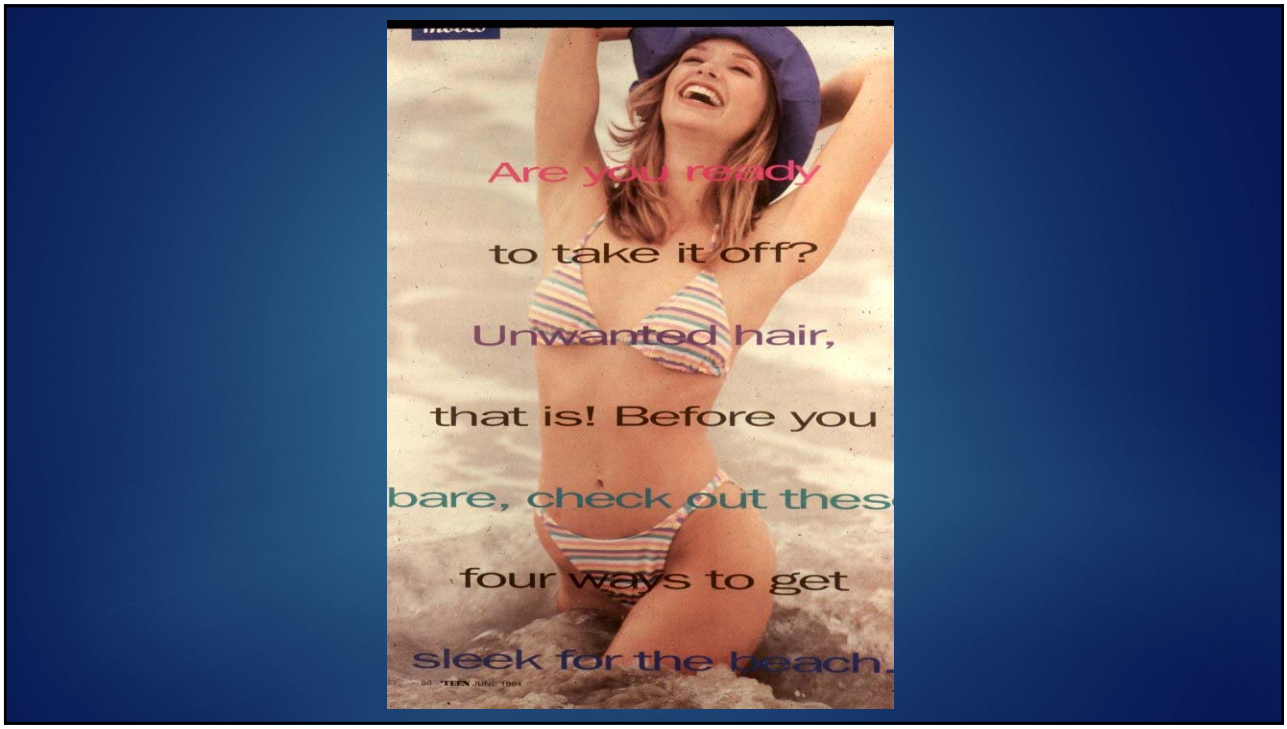
Body Image

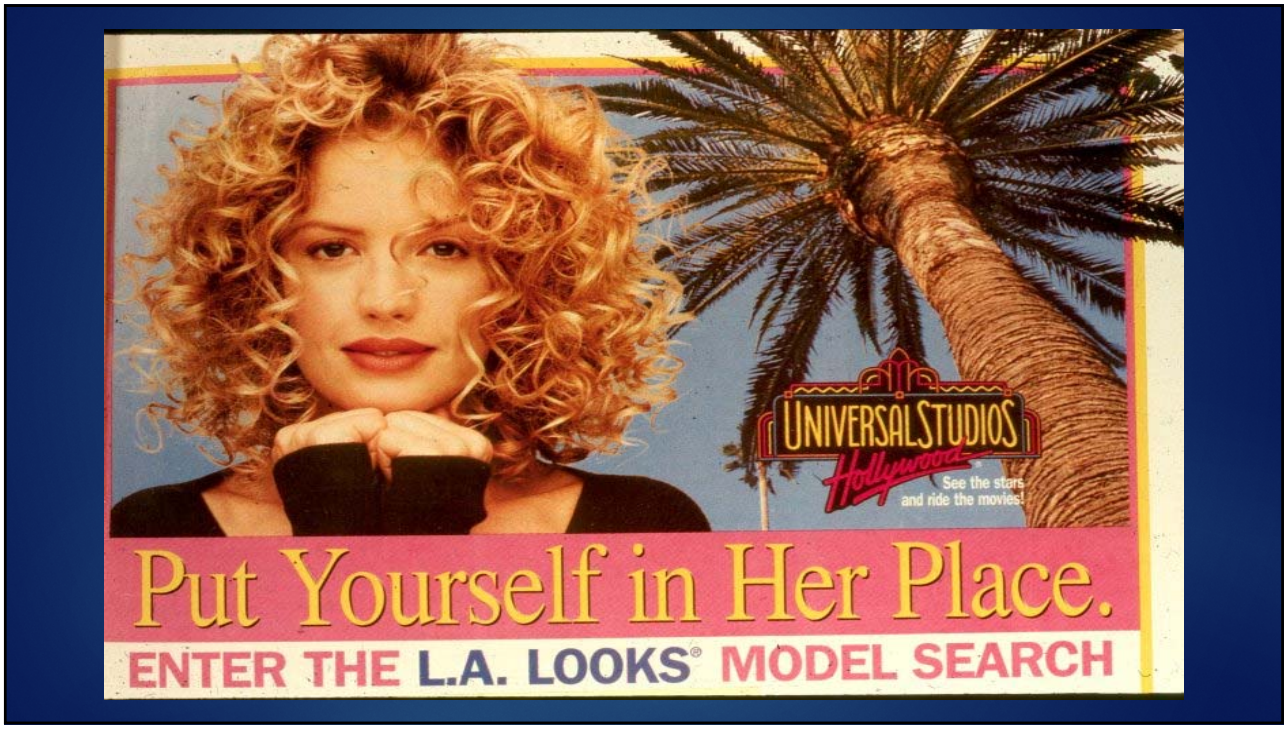
journal homepage: www.elsevier.com/locate/bodyimage

Sociocultural pressures and adolescent eating in the absence of hunger

Samantha A. Reina[a], Lauren B. Shomaker[a,b,*], Mira Mooreville[a], Amber B. Courville[c], Sheila M. Brady[a], Cara Olsen[d], Susan Z. Yanovski[a,e], Marian Tanofsky-Kraff[a,b], Jack A. Yanovski[a]

[a] Section on Growth and Obesity, Program in Developmental Endocrinology and Genetics, Eunice Kennedy Shriver, National Institute of Child Health and Human Development (NICHD), National Institutes of Health (NIH), Bethesda, MD, United States
[b] Department of Medical and Clinical Psychology (MPS), Uniformed Services University of the Health Sciences (USUHS), Bethesda, MD, United States
[c] Nutrition Department, Clinical Center, NIH, Bethesda, MD, United States
[d] Department of Preventive Medicine and Biometrics, USUHS, Bethesda, MD, United States
[e] Division of Digestive Diseases and Nutrition, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, Bethesda, MD, United States


Are you ready
to take it off?
Unwanted hair,
that is! Before you
bare, check out thes
four ways to get
sleek for the beach.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Hollywood
See the stars and ride the movies!
Put Yourself in Her Place.
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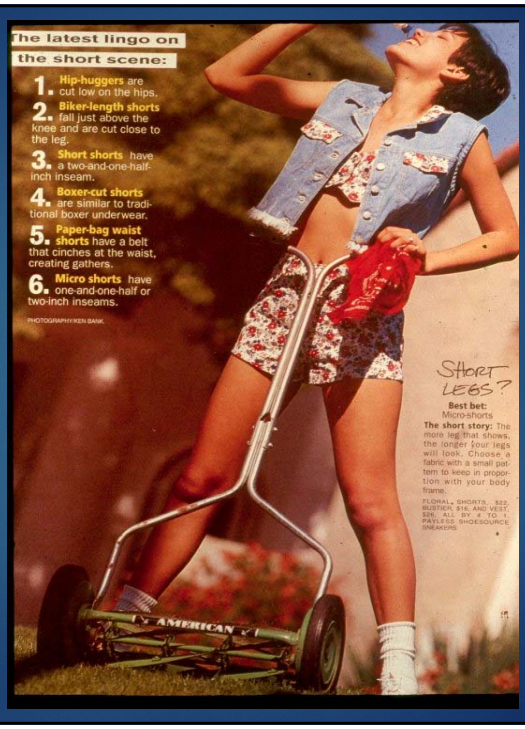
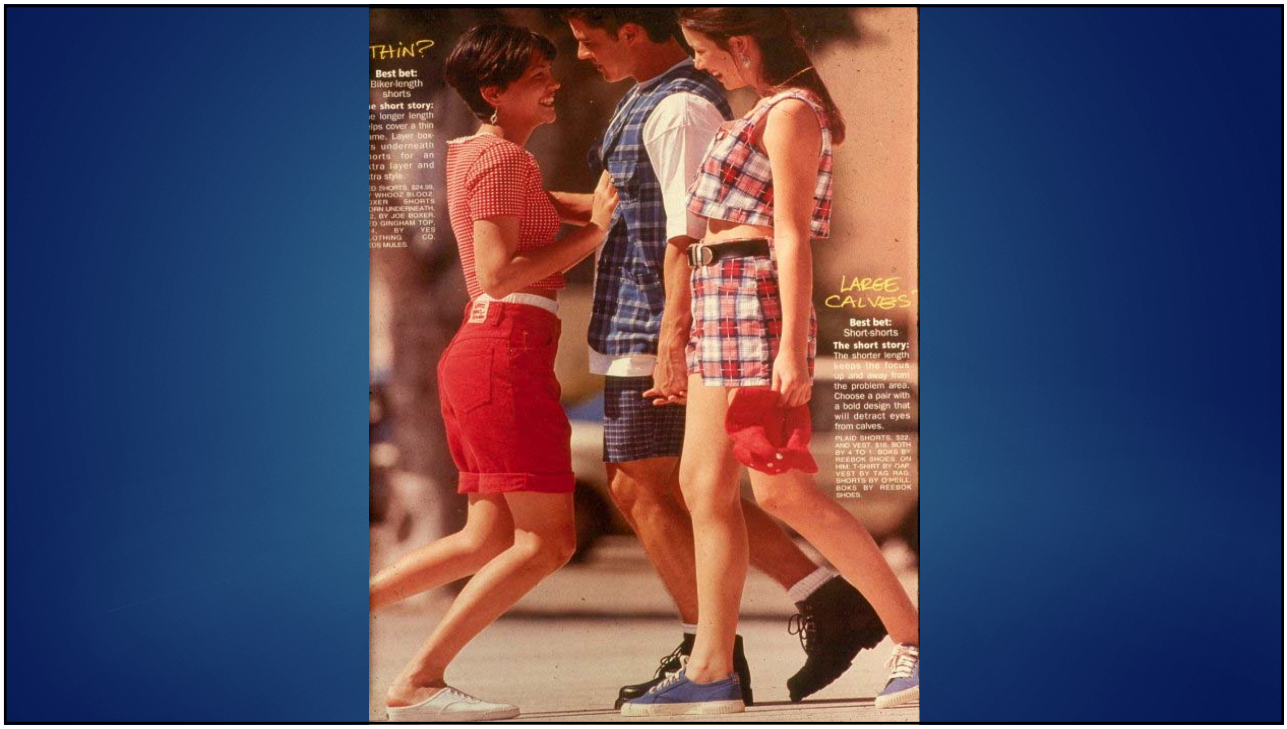

The latest lingo on
the short scene:
1. Hip-huggers are cut low on the hips.
2. Biker-length shorts fall just above the knee and are cut close to the leg.
3. Short shorts have a two-and-one-half-inch inseam.
4. Boxer-cut shorts are similar to traditional boxer underwear.
5. Paper-bag waist shorts have a belt that cinches at the waist, creating gathers.
6. Micro shorts have one-and-one-half or two-inch inseams.
PHOTOGRAPHY/KEN BANK
SHORT LEGS?
Best bet:
Micro-shorts
The short story: The more leg that shows, the longer your legs will look. Choose a fabric with a small pattern to keep in proportion with your body frame.
AMERICAN


Your thighs smaller?
Here are all sorts of shorts
that are suited for
your shape.
Choose the one
just right
for you!
SHORT WAISTED?
Best bet:
Hip-huggers
The short story: These lo
slung shorts make your tors
appear longer. The hip be
helps draw attention awa
from problem areas.
SHORT STUFF


THIN?
Best bet:
Biker-length shorts
short story:
longer length
ps cover a thin
me. Layer box-
s underneath
orts for an
tra layer and
tra style.
LARGE CALVES?
Best bet:
Short-shorts
The short story:
The shorter length
keeps the focus
up and away from
the problem area.
Choose a pair with
a bold design that
will detract eyes
from calves.


TUMMY ROLL?
Best bet:
Paper-bag waist shorts
The short story:
FULL THIGHS?
Best bet:
Boxer-cut shorts
The short story:

How you can get ...
A FOXY, FIRMER, THINNER BODY
... in just 2 weeks!

THE BODY YOU'VE ALWAYS WANTED!

You can have the cute, foxy body you've always wanted - the kind of body that really gets guys' attention. And you can look that way sooner than you think!

In as little as 2 weeks, you could have a body that's becoming thinner, firmer and cuter than you ever imagined -- thanks to an awesome new discovery.

Body Maker™ helps you lose weight and shape up your whole body. You can have a narrower waist, thinner hips, legs and thighs, and a firmer behind -- and add shape, firmness and curves in all the right places!

No matter how many times you've tried and failed before, now the awesome new Body Maker can quickly and easily show you how to get a body that's cuter and foxier than you ever thought possible! Finally, here's something that really works!

HOW BODY MAKER WORKS

With Body Maker, you still get to eat the foods you like -- including those snacks you love so much. It's not a diet -- so there's no list of things you have to eat. No list of things you can't eat, either. But when you follow the Body Maker program, you'll end up eating less (but still enough to keep you healthy.) You'll also safely increase your metabolism (calories burned up.) And pretty soon, all those extra pounds will be gone for good!

Body Maker will help you cut down on your appetite before meals and avoid over-eating -- even when you're dying to have a snack! And before you know it, you'll have a whole new set of eating habits, be thin, and stay thin -- with nothing more to buy. This is not like those diet pills you have to keep buying over and over again!

MADE ESPECIALLY FOR TEENAGE GIRLS

Body Maker was created especially for a teenage girl's body. It's the safest, healthiest way to lose weight we've ever seen. And it works! Show it to your doctor -- we're sure he'll agree!

Here's more good news. You never have to do any exercises -- and you won't need to! With Body Maker you'll just feel like being more active all the time!

IT WORKS FAST!

Body Maker can start working for you from the very first day. And in just two short weeks you'll be so happy about the changes in your body that you'll feel like a whole new person!

Before you know it, you'll be going to the mall to get that cute bikini you always wished you could wear. And when you look in the mirror, you won't believe how

"I tried your product, and it worked." Anna, age 16, California (That's her picture, above!) Here's what another girl said:

good you look!

Can you see it? Try to imagine how gorgeous you'll look. How every part of your body can be slimmer, trimmer and cuter than you ever thought possible. Really picture it in your mind. It can happen to you!

YOU'LL FEEL GOOD ABOUT YOURSELF!

The best part is -- you'll be so proud of yourself when you find out you really can lose weight. It's not your fault you haven't lost weight -- it's those worthless diets that don't work! Now you really can make your dreams come true. Absolutely!

This summer can be the best summer of your life! Make sure you don't miss out on all the fun at the beach, parties, and at the pool!

Sure -- once you look so good, all those guys that never noticed you before might start asking you out. But don't just do this for the guys. Do it for yourself. You deserve it!

IT WORKS IN JUST 14 DAYS-- OR YOUR MONEY BACK!

Body Maker has worked for thousands of girls. And we're so sure it'll work for you, too, that we want you to try it for a whole two weeks at no risk.

Go ahead -- really use it as much as you want. Let it help you slim down, shape up and beautify your body.

Then, if you feel you haven't changed enough; if you're not absolutely amazed at the results -- just send back Body Maker and we'll give you your money back. It won't cost you anything unless you get the body you want!

DO IT NOW!

Here's all you've got to do. Fill out the coupon and send it in with $9 plus $3 shipping. (Total $12.) We'll send you Body Maker fast. (The package won't say who it's from or what's inside.)

So don't wait. If you put it off you might forget, and miss out on the cute body you want, and the fun-filled summer you deserve.

Do it now. You'll be glad you did.

P.S.: Want a cute body even

Your product is awesome! I used to weigh 135 pounds. Then I saw your advertisement and decided to use your product. Now I weigh 115 pounds and still going down! I have never seen anything as effective and safe. Thank you so much for giving me my life back! F.W., 13

faster? We have some really easy, fun exercises you can do in just 15 minutes a day. Use them with Body Maker for extra-fast results! They're just $3 extra when you get Body Maker. Good deal!

Plus -- you'll also get a . . .

FREE GIFT!

You'll also get a speciall surprise gift absolutely free, just for trying Body Maker.

Hurry up and be the first one at your school to get that cute body!

P.P.S.: Other ads might look like ours, but we're the only ones selling Body Maker. If their stuff is so hot, how come they use professional models in their ads, instead of a real customer, like we do?

Coupon gone? No problem! Just send $12 to Body Maker, P.O. Box 727, Rockville, MD 20848

FREE 14-DAY TRIAL COUPON 13-WN

Body Maker
Viers Mill Road
P.O. Box 727
Rockville, MD 20848-0727

Yes! I want a totally cute body. Send me Body Maker right away! Money back guarantee. Here's:

☐ $12 for Body Maker and bonus ($9 plus $3 shipping = $12)

☐ $15 for Body Maker, free bonus, and exercises ($12 plus $3 shipping = $15)

PRINT Name ______

Address ______

City ______ State ______ Zip ______

PERSONAL BODY GOALS FORM

(Answer only if you want to)

I weigh ______ pounds; I WANT to weigh ______

These are the parts of my body I want to change. Check as many as you want:

☐ Face ☐ Arms ☐ Hips
☐ Neck ☐ Waist ☐ Thighs
☐ Chest ☐ Butt ☐ Legs

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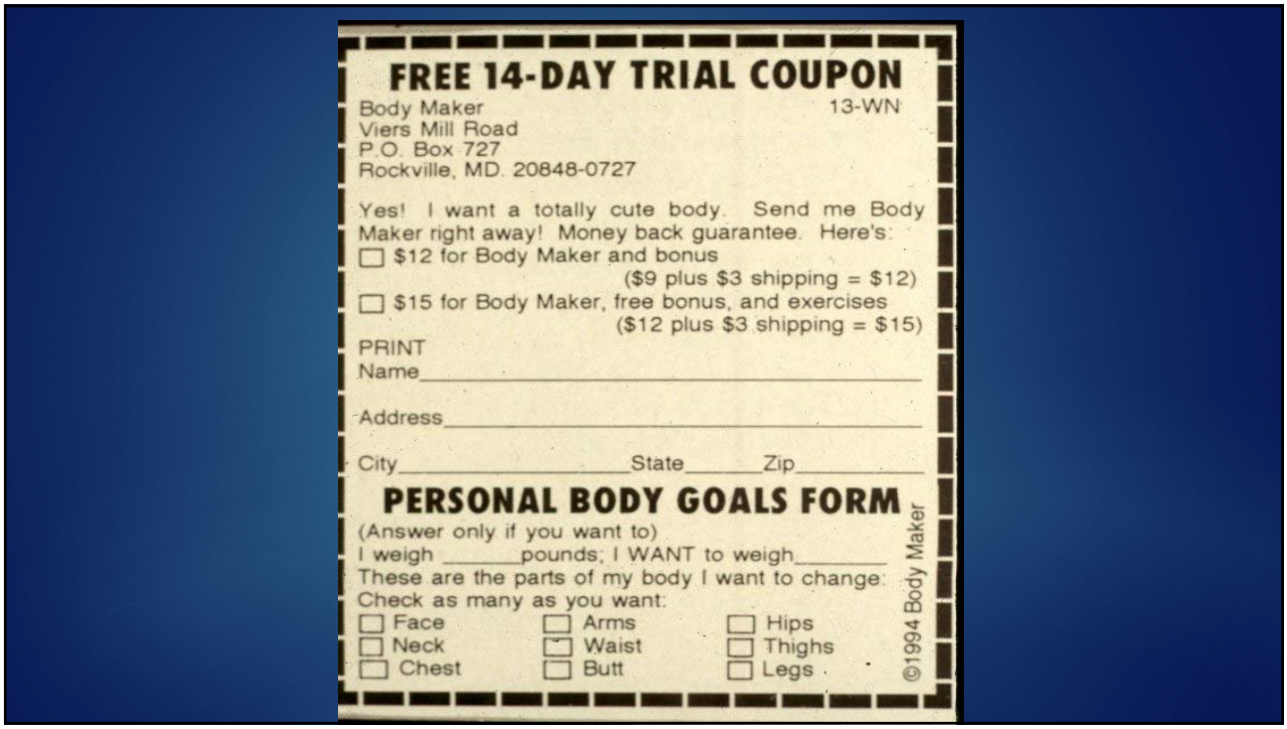

FREE 14-DAY TRIAL COUPON

Body Maker 13-WN
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Rockville, MD. 20848-0727

Yes! I want a totally cute body. Send me Body Maker right away! Money back guarantee. Here's:

☐ $12 for Body Maker and bonus
($9 plus $3 shipping = $12)

☐ $15 for Body Maker, free bonus, and exercises
($12 plus $3 shipping = $15)

PRINT
Name_____

Address_____

City_____State_____Zip_____

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(Answer only if you want to)
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Check as many as you want:

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☐ Neck	☑ Waist	☐ Thighs
☐ Chest	☐ Butt	☐ Legs

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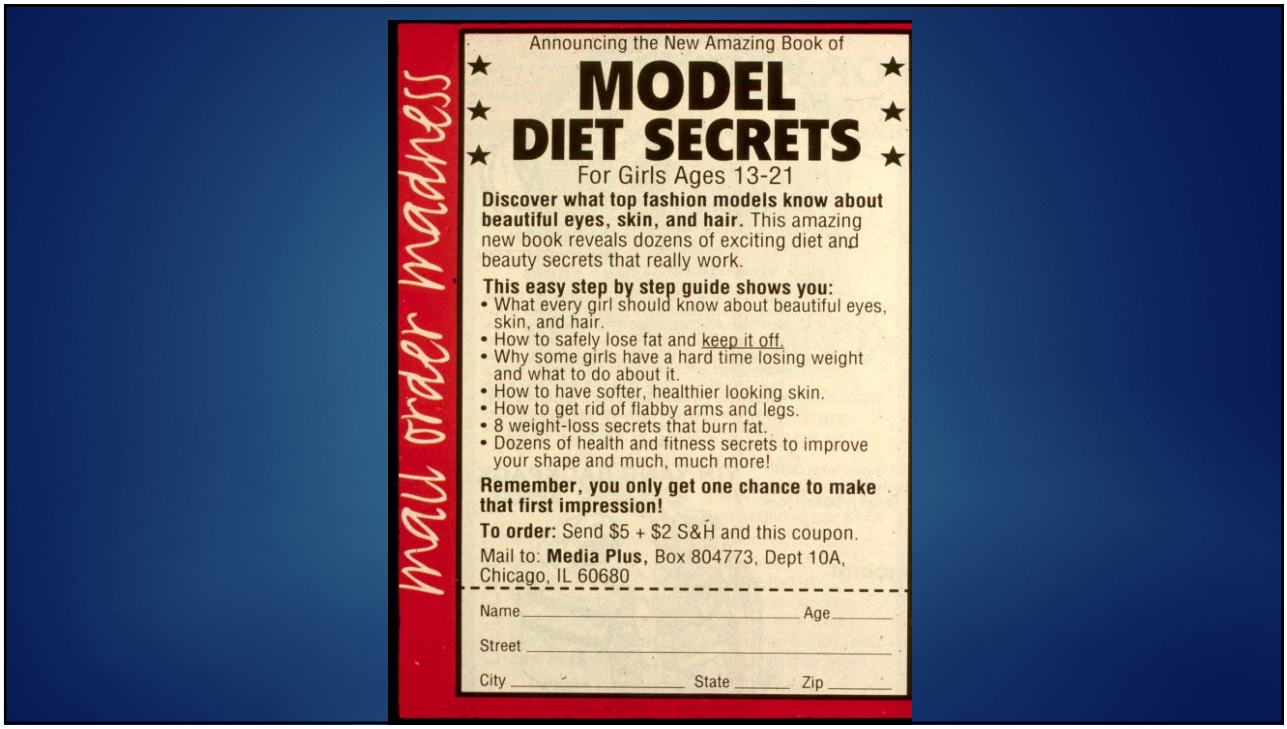

mail order madness

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MODEL DIET SECRETS

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Discover what top fashion models know about beautiful eyes, skin, and hair. This amazing new book reveals dozens of exciting diet and beauty secrets that really work.

This easy step by step guide shows you:

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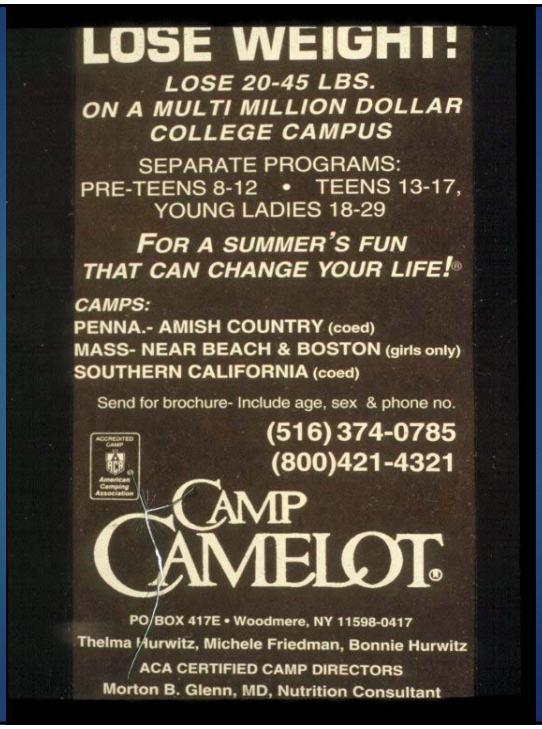
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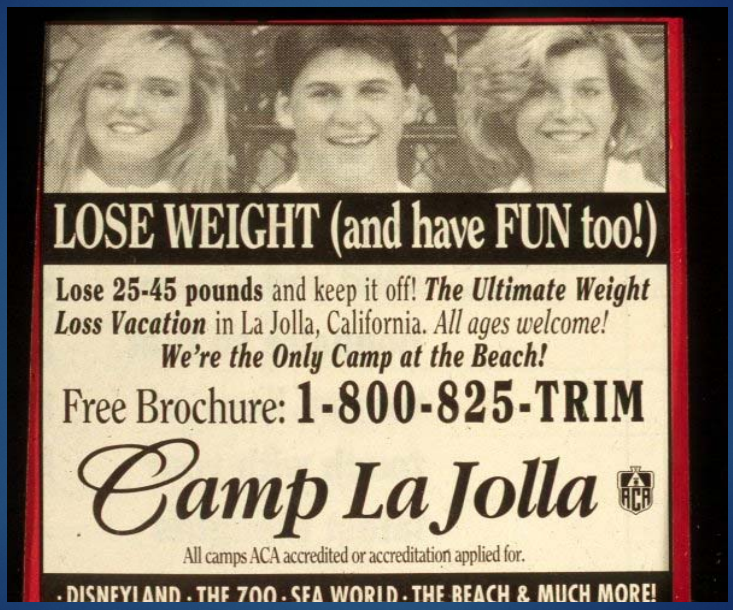
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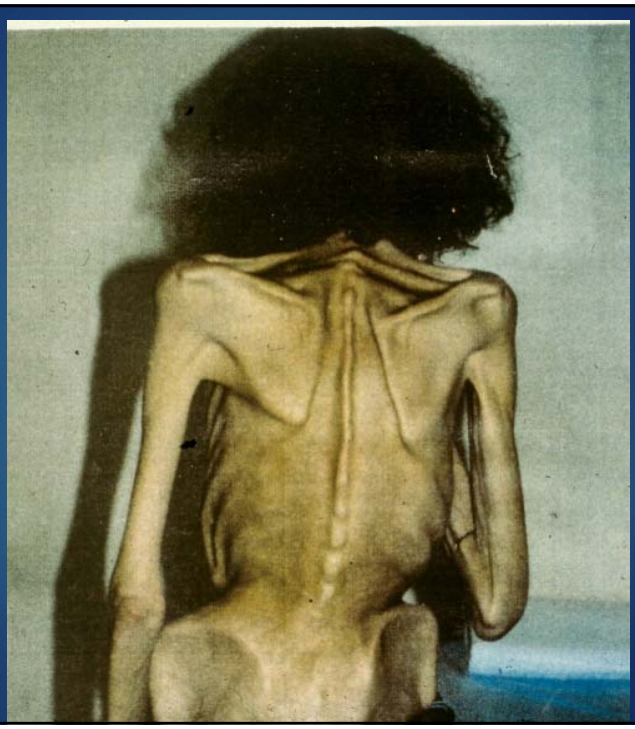


Part II: Treatment

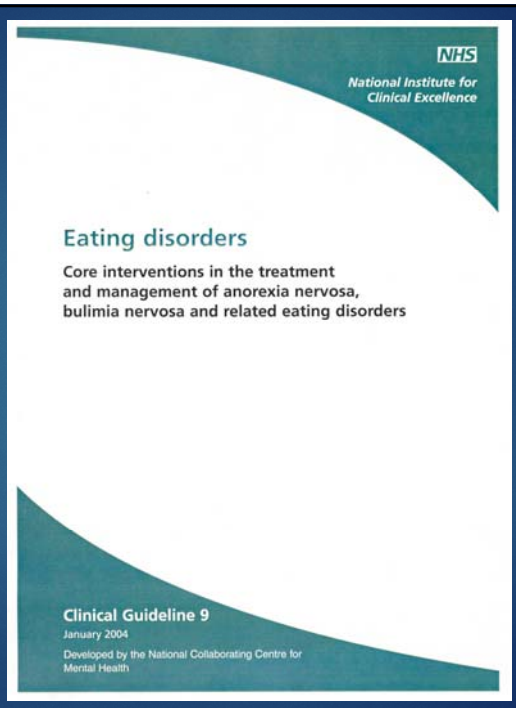
The Prevalence and Correlates of Eating Disorders in the National Comorbidity Survey Replication

James I. Hudson, Eva Hiripi, Harrison G. Pope, Jr., and Ronald C. Kessler

Background: *Little population-based data exist on the prevalence or correlates of eating disorders.*
Methods: *Prevalence and correlates of eating disorders from the National Comorbidity Replication, a nationally representative face-to-face household survey (n = 9282), conducted in 2001–2003, were assessed using the WHO Composite International Diagnostic Interview.*
Results: *Lifetime prevalence estimates of DSM-IV anorexia nervosa, bulimia nervosa, and binge eating disorder are .9%, 1.5%, and 3.5% among women, and .3% .5%, and 2.0% among men. Survival analysis based on retrospective age-of-onset reports suggests that risk of bulimia nervosa and binge eating disorder increased with successive birth cohorts. All 3 disorders are significantly comorbid with many other DSM-IV disorders. Lifetime anorexia nervosa is significantly associated with low current weight (body-mass index <18.5), whereas lifetime binge eating disorder is associated with current severe obesity (body-mass index ≥ 40). Although most respondents with 12-month bulimia nervosa and binge eating disorder report some role impairment (data unavailable for anorexia nervosa since no respondents met criteria for 12-month prevalence), only a minority of cases ever sought treatment.*
Conclusions: *Eating disorders, although relatively uncommon, represent a public health concern because they are frequently associated with other psychopathology and role impairment, and are frequently under-treated.*

Lifetime and 12 Month Treatment of DSM IV EDs-NCS-R (n=2,980)

	AN	BN	BED
ED Tx			
Lifetime (%)	33.8	43.2	43.6
Any Psychiatric Tx			
Lifetime (%)	50	63.2	51.2



How to Find the NICE Guideline

www.NICE.org.uk

Anorexia Nervosa
(NICE Guidelines)

- Most people with anorexia nervosa should be managed on an outpatient basis with psychological treatment by a service that is competent in giving that treatment and assessing the physical risk of people with eating disorders.

ED Treatment Team

Anorexia Nervosa
(NICE Guidelines Cont.)

- People with anorexia nervosa requiring inpatient treatment should be admitted to a setting that can provide the skilled implementation of refeeding with careful physical monitoring (particularly in the first few days of refeeding) in combination with psychosocial interventions.

Anorexia Nervosa
(NICE Guidelines Cont.)

- Family interventions that directly address the eating disorder should be offered to children and adolescents with anorexia nervosa.

What is the Maudsley Family Based Approach?

- Outpatient weight restoration treatment
- ~ Twenty sessions over 6-12 months
- Puts PARENTS in charge of weight restoration (appropriate control, ultimately relinquished)
- Contrary to traditional separation of parents and child
- No assumption about etiology of AN

Treatment of AN

- Maudsley or Family Based Treatment has not been shown to be effective for patients over 18
- No specific treatment has been shown to be effective for AN adults in a scientific study
  - RCTs of psychological treatment are plagued by high dropout and small effects regardless of treatment type

Pharmacotherapy and AN

Antidepressants (fluoxetine, venlafaxine, citalopram, tricyclics)

- Small trials
- High dropout rates
- 4 placebo controlled trials did not find evidence of weight gain or improvement in ED psychopathology

Atypical Antipsychotics (olanzapine, risperidone)

- Small trials
- Not well controlled
- Limited effect on weight or psychopathology-(obsessional thinking?)

Kaplan & Howlett, 2010; Dynamed, 2015

Fluoxetine After Weight Restoration in Anorexia Nervosa

A Randomized Controlled Trial

B. Timothy Walsh, MD
Allan S. Kaplan, MD, FRCPC
Evelyn Attia, MD
Marion Olmsted, PhD
Michael Parides, PhD
Jacqueline C. Carter, PhD
Kathleen M. Pike, PhD
Michael J. Devlin, MD
Blake Woodside, MD, FRCPC
Christina A. Roberto, BA
Wendi Rockert, MEd

Context Antidepressant medication is frequently prescribed for patients with anorexia nervosa.

Objective To determine whether fluoxetine can promote recovery and prolong time-to-relapse among patients with anorexia nervosa following weight restoration.

Design, Setting, and Participants Randomized, double-blind, placebo-controlled trial. From January 2000 until May 2005, 93 patients with anorexia nervosa received intensive inpatient or day-program treatment at the New York State Psychiatric Institute or Toronto General Hospital. Participants regained weight to a minimum body mass index (calculated as weight in kilograms divided by the square of height in meters) of 19.0 and were then eligible to participate in the randomized phase of the trial.

Interventions Participants were randomly assigned to receive fluoxetine or placebo and were treated for up to 1 year as outpatients in double-blind fashion. All patients also received individual cognitive behavioral therapy.

Main Outcome Measures The primary outcome measures were time-to-relapse and the proportion of patients successfully completing 1 year of treatment.

Results Forty-nine patients were assigned to fluoxetine and 44 to placebo. Similar percentages of patients assigned to fluoxetine and to placebo maintained a body mass index of at least 18.5 and remained in the study for 52 weeks (fluoxetine, 26.5%; placebo, 31.5%; $P = .57$). In a Cox proportional hazards analysis, with prerandomization body mass index, site, and diagnostic subtype as covariates, there was no significant difference between fluoxetine and placebo in time-to-relapse (hazard ratio, 1.12; 95% CI, 0.65-2.01; $P = .64$).

Conclusions This study failed to demonstrate any benefit from fluoxetine in the treatment of patients with anorexia nervosa following weight restoration. Future efforts should focus on developing new models to understand the persistence of this illness and on exploring new psychological and pharmacological treatment approaches.

Trial Registration clinicaltrials.gov Identifier: NCT00288574

JAMA. 2006;295:2605-2612 www.jama.com

ANOREXIA NERVOSA IS A SERIOUS psychiatric illness with substantial morbidity and a lifetime mortality arguably as high as that associated with any psychiatric illness.[1] A major contributor to the poor prognosis of this illness is the high rate of relapse following initial treatment. Despite successful weight restoration, 30% to 50% of patients require rehospitalization within 1 year of discharge.[2,3] This discouraging experience has prompted interest in interventions aimed at preventing deterioration following weight restoration.

Patients with anorexia nervosa often exhibit symptoms of other psychiatric disorders,[4] such as depression and obsessive-compulsive disorder, which are responsive to antidepressant medication, suggesting that pharmacological interventions might be of use. Surprisingly, virtually all of the controlled trials of medication (most of which have been conducted during the initial phase of treatment when patients are underweight) have shown no benefit of medication compared with placebo.[5,6] Despite this lack of evidence of effectiveness, a substantial number of pa-

See also p 2659 and Patient Page.

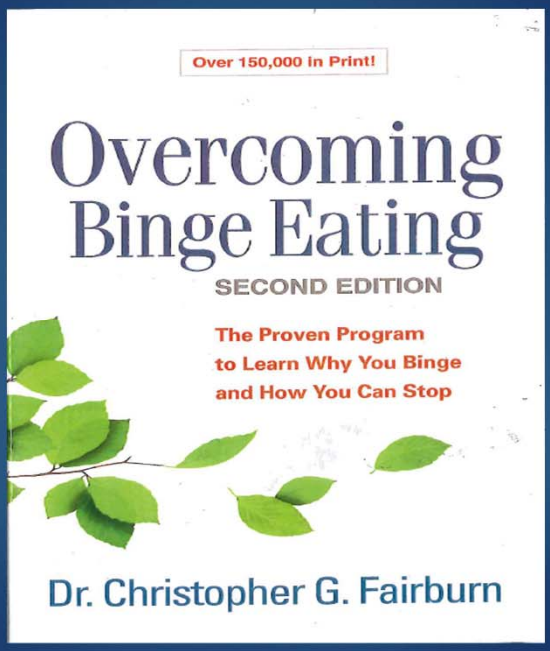
Author Affiliations: New York State Psychiatric Institute/Columbia University Medical Center, New York, NY (Drs Walsh, Attia, Parides, Pike, and Devlin and Ms Roberto); and University of Toronto and Toronto General Hospital, Toronto, Ontario (Drs Kaplan, Olmsted, Carter, and Woodside and Ms Rockert).
Corresponding Author: B. Timothy Walsh, MD, Department of Psychiatry, College of Physicians and Surgeons of Columbia University/New York State Psychiatric Institute, 1051 Riverside Dr, Unit 98, New York, NY 10032 (btw1@columbia.edu).

Pharmacotherapy and AN (Walsh et al., 2006)

- RCT with 93 weight restored AN patients (post discharge)
- Fluoxetine vs. placebo for 1 year
- No difference in relapse or number successfully completing 1 year of treatment (Relapse: Plac=55%; Fluox = 57%)

Bulimia Nervosa (NICE Guidelines)

- As a possible first step, patients with bulimia nervosa should be encouraged to follow an evidence-based self-help programme.



Bulimia Nervosa (NICE Guidelines cont.)

- As an alternative or additional first step to using an evidence-based self-help program, adults with bulimia nervosa may be offered a trial of an antidepressant drug.

Bulimia Nervosa (NICE Guidelines cont.)

- As an alternative or additional first step to using an evidence-based self-help program, adults with bulimia nervosa may be offered a trial of an antidepressant drug.

Pharmacotherapy and BN

- Antidepressants are the medications recommended in NICE guideline
- SSRIs, particularly fluoxetine, are drugs of choice
- High dropout rate (30-40%)
- Add antidepressant to structured psychotherapy if no reduction is symptoms after 10 sessions

Dynamed, 2015

Bulimia Nervosa
(NICE Guidelines cont.)

- Cognitive behaviour therapy for bulimia nervosa (CBT-BN), a specifically adapted from of CBT, should be offered to adults with bulimia nervosa. The course of treatment should be for 16 to 20 sessions over 4 to 5 months.

Bulimia Nervosa
(NICE Guidelines cont.)

- Adolescents with bulimia nervosa may be treated with CBT-BN, adapted as needed to suit their age, circumstances and level of development, and including the family as appropriate.

Royal Australian and New Zealand College of Psychiatrists Practice Guidelines for the Treatment of Eating Disorders (2014)

Binge Eating Disorder

1. First line treatment is psychological treatment-CBT
2. Consider topiramate or orlistat for binge control and obesity
3. Consider high dose fluoxetine-alone if psychological treatment is not available
4. Combined treatment (drug and psychological) may offer added benefit

Pharmacotherapy of BED

	Binge Eating	Wt. Loss
Tricyclics (Imipramine, Desipramine)	+ +	±
SSRIs/NRIs (Citalopram, Fluvoxamine, Sertraline)	+ +	+
Orlistat	±	+ +
Anti-epileptics (Topiramate, Zonisamide)	+ +	+ + +

± = Minimal effect
+ = Small effect
++ = Moderate effect
+++ = Significant effect

Mitchell et al., 2013

Other Treatments Being Tested or Recently Distributed

- Affect regulation based treatments for BN and BED
  - Integrative Cognitive Affective Therapy (ICAT)
  - Dialectical Behavior Therapy (DBT) for BN and BED
- Lisdexamphetamine (LDX, Vyvanse) for BED (FDA approved)
- Intranasal naloxone for binge eating

Hospital Based Treatment

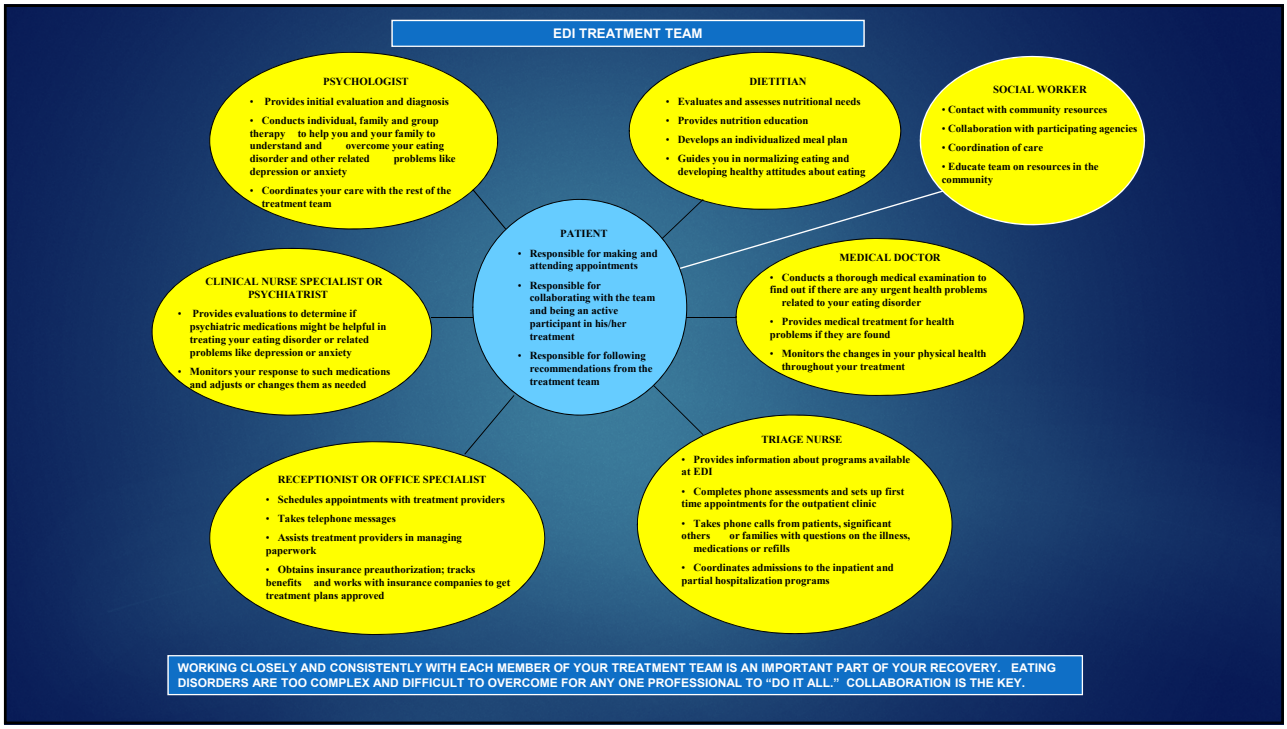
Continuum of Care

- Self help
- Outpatient
- Intensive outpatient
- Partial hospital
- Residential
- Inpatient

Factors to Consider in need for Hospitalization

- Medical complications
- Suicidality
- Body weight
- Low motivation to recover
- Comorbid disorders
- Impairment in ability to care for self
- Extreme environmental stress
- Treatment availability

Team Approach to Eating Disorders



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Questions?
(Particularly about ED treatment in rural areas)

Thank You!

Northern Tier EMA Study Group

(Fargo, Minneapolis, Chicago)

Ross Crosby
Scott Engel
Jim Mitchell
Heather Simonich
Li Cao
Jason Lavender

Scott Crow
Carol Peterson
Daniel Le Grange
Annie Erickson
Chad Lystad

Integrative Cognitive-Affective Therapy Study Group

(Fargo, Minneapolis, Madison)

Carol Peterson
Ross Crosby
Jim Mitchell
Jason Lavender

Scott Crow
Tracey Smith
Marj Klein
Kelly Berg

Sanford Eating Disorder and Weight Management Center.

Hospital and Clinic Teams