

MCHB/ OWH July 18, 2006 Webcast

Management of Eating Disorders

PETER VAN DYCK: Good afternoon, everybody. My name is Dr. Peter van Dyck, and I'm the associate administrator for maternal and child health here at HRSA in the Department of Health and Human Services. I want to thank you for joining us today for this web seminar on the management of eating disorders. Eating disorders are serious psychiatric illness, high morbidity, mortality, and costs to society. Pleased to be a partner of the agency of health research and quality, and the national institute of health office of research on women's health, on the recently released evidence-based report on the management of eating disorders. The report was completed in April of 2006 under research and copies of the report are available through the agency for health care research and quality clearinghouse and online, you'll hear more about that later in the webcast. We hope that these presentations will provide an opportunity for you to better understand the evidence-base for management and treatment of anorexia nervosa, bulimia nervosa, and binge eating disorder, and help identify areas for further research and collaboration.

We are joined today by two speakers from RTI International University of North Carolina evidence based practice center. Dr. Nancy Berkman, the lead author of the report, and also Dr. Cynthia Bulik, William and Jean Jordan professor of eating disorders in the department of psychiatry in the University of North Carolina at Chapel Hill. Also pleased to have closing remarks from Dr. Vivian Pinn. Each of the speakers will say a little more

about their affiliations and expertise during their presentations. I thank you again for joining us today and for the speakers and hope that you will find this seminar helpful.

There will be time at the end of the broadcast for you to email questions and comments for the speakers. Some helpful hints on participating in the webcast will now be provided to you by Sabrina Matoff-Stepp. Thank you again for joining us.

SABRINA MATOFF-STEPP: Thank you, everyone, and Dr. Van Dyck. Just a few comments to help you get through the webcast and use this technology. The slides will appear in the central window and should advance automatically. The slide changes are synchronized with the speaker's presentation, so that you don't have to do anything to advance the slides yourself. However, you may need to adjust the slide, timing of the slide changes to match the audio by using the slide delay control at the top of the messaging window.

We also encourage you to ask the speakers questions at any time during the presentation, and you can do that by simply typing your question in the white message window on the right of the interface. Select question for speaker from the drop down menu, and hit send. Please include your state or organization in your message so we know where you are calling from, and we'll provide to the speakers the questions throughout the broadcast as well as how the question and answer session at the end. If we don't get to your question during the webcast we will email you an answer afterwards. Again, we encourage you to submit your questions at any time during this broadcast. On the left of the interface is the video window. You can adjust the volume of the audio using

the volume control slider which you can access by clicking on the loud speaker icon. Those of you who have selected accessibility features when you registered will see text captioning underneath the video window.

At the end of the broadcast the interface will close automatically and you'll have the opportunity to fill out a brief online evaluation. Please take a few minutes and fill out this evaluation so we can plan future broadcasts in this series and improve our work and technical support. At this time I'm going to turn the webcast over to our featured speakers at University of North Carolina research triangle institute, Dr. Nancy Berkman and Dr. Cynthia Bulik. Thank you very much.

CYNTHIA BULIK: Welcome to our webcast on the management of eating disorders and thank you for joining us today while we share this report with you. I am Dr. Cindy Bulik, joined here in North Carolina with Dr. Nancy Berkman. The first thing I would like to do is introduce our co-authors of this report, and in addition to Dr. Berkman and myself, next slide, we have Dr. Kim Brownley, Kathleen Lohr, Jan Sedway, Adrienne Rooks, and Gerald Gartehner. Funding support for this report was provided by the agency for health care research and quality, the office of research on women's health and the national institutes of health, and health resources and services administration. RTI UNC authors are solely responsible for content.

Next slide. Just as background, for those of you less familiar, we will talk about the eating disorders we are discussing today starting with anorexia nervosa. Anorexia is marked by

refusal to maintain body weight, a fear of becoming fat even when under weight, disturbance in the way one is experienced, denial of the seriousness of the illness. Amenorrhoea or the absence of menstruation is often present and there are two sub types, restricting or the binge purging type. Sex ratio is lopsided. We also know sub threshold conditions are much more prevalent and indeed, anorexia nervosa has the highest mortality rate for a psychiatric disorder. It's a feeling out of control during the binges, coupled with compensatory behavior, and self-evaluation is unduly influenced by body shape and weight. Bulimia can include purging and non-purging. Prevalence between 1 and 3%, and sub threshold conditions more common and the sex ratio is about 9 to 1, with more women having the illness. Eating disorders, not otherwise specified was originally our brief for this report. However, we found a scarcity of literature on EDNOS. Eating disorders not otherwise specified is a group category for individuals who meet all criteria except amenorrhoea, or weight loss, all criteria for bulimia nervosa, lower frequency or duration, or individuals with compensatory behaviors in the absence of binge eating. And also repeatedly chewing and spitting out food.

The next slide shows you the disorder we did spend time looking at in this report, that's binge eating disorder. Provisional diagnostic criteria, three or more of the following. Eating more rapidly than normal, uncomfortably full, eating large amounts of food and not hungry, eating alone because of embarrassment or disgust. More remarks about binge eating. It occurs on average at least twice a week for six months and this occurs in the absence of regular compensatory behaviors. Prevalence is between .7 and 4%, and obese population is 5 to 8%. And unlike anorexia and bulimia, sex ratio is approximately equal. Clarity,

abbreviations we will use. AN, BN, BED, and EDNOS, for eating disorders not otherwise specified. We addressed six key questions in this report. The first key questions have to do with the treatment component of the report.

First key question, what is the evidence or the efficacy of treatment or the combination of treatments for each of the following eating disorders, anorexia, bulimia, and binge eating disorder. Key question two, what is the evidence of Harms associated with the treatment or combination of treatments for each of the three eating disorders. Key question three, what factors are associated with the efficacy of treatment among patients with the three eating disorders. Key question four, does the efficacy of treatment for anorexia, bulimia, and binge eating disorder differ by sex, gender, age, race, ethnicity or cultural group. Our two outcomes key questions, what factors are associated with outcomes among individuals with the following eating disorders, and do outcomes for the three eating disorders differ by sex, gender, age, race, and ethnicity or cultural group. This is the analytic framework with which we approached these key questions. On the far left of the screen you can see our representation as how the eating disorders fall together. And then if you follow through the arrows you can see that four of our key questions flow through the treatment box where we look at different types of interventions for these disorders, whereas two of our key questions, key question five and six, just look at the long-term outcomes of these disorders.

We are looking at three primary categories of outcomes the first in blue are eating outcome, binge eating and purging, psychological features such as shape and weight

concerns, dietary constraint, hunger. Pink box we see the psychological outcomes. In the green box biomarker, weight and BMI, menstrual status, various morbidity associated with the disorders. And finally occupation and social, death. And sex and gender, age, race, ethnicity and culture. And now Dr. Berkman will take you through the methods we used to conduct the report.

NANCY BERKMAN: Thank you. First we searched the electronic databases we thought could direct us to all the literature which met our inclusion criteria, and the full inclusion criteria in subsequent slides. Medline, the other criteria on the slide. And review articles related to similar topics. We first reviewed abstracts to decide whether studies met our inclusion criteria. Due to the complexity of the literature, we had to confirm that studies met our criteria based on a review of the full article. In both abstract and full article review we conducted dual reviews to decide on inclusion or exclusion. We erred -- the same goal, being careful to include all available evidence, all articles included in the study were abstracted into evidence tables. They provided a consistent summary presentation of the information contained in articles that facilitate our ability to analyze the findings in the report. We use a dual approach to ensure we accurately included all needed information.

Next slide, please. For finalizing the key research questions, the completion of the draft report, our technical expert panel provided insights and assistance throughout the development of the study through teleconferences and email exchanges. In particular, identified the literature on the review, and faced with the literature too large to completely review, provided direction how it should be narrowed. We graded the quality and the

strength of the body as a whole to answer each key question in relation to each disorder. While each study that met our inclusion criteria summarized on the evidence table, only studies graded as fair or good were on the finding. Those rated as poor were not. 16 peer reviewers, experts, clinicians, other potential users of the report. We made final revisions to the evidence report based on peer reviewer comments and we considered each and every peer reviewer comment and provided the agency for health care, research and quality with a report detailing the final disposition of each comment.

Now I'm going to list the inclusion and exclusion criteria for articles included in the review. Study focused on humans of all races, ethnicity, and cultural groups, ten years of age or older. Excluded out of the realm of the report were eating problems in young children. All nations and articles published from 1980 to the present, and all languages as long as the articles were in print. Excluded articles published in a non-peer review journal or what we call the gray literature and those unobtainable during the peer review period. Admissible evidence included original research studies with sufficient detail to allow for analysis. Studies were limited to those in which participants will anorexia, bulimia, or other. Eating related, psychiatric or psychological during the analytic framework. Analysis of treatment studies was limited to efficacy studies done as part of randomized control trials, or RCT. We required different sample sizes and different lengths of time. Criteria was developed based on the size of the literature and the nature of the disorder. Anorexia nervosa and binge order required ten participants for any length of time, bulimia nervosa required 30 participants, it was larger, and needed to be followed at least three months so we were not measuring short-lived fluctuations in outcome. For the outcomes review, we included

cohort and case studies. Cohort studies are individuals in the community identified with a disorder, and case theory studies identified through the participation in a treatment study. Studies did and did not include comparison groups. Disease population must be followed for a minimum of one year, and include 50 participants at the time of the analysis. This table presents the disposition of all articles potentially considered for inclusion, 2188 articles, and further 478 review, and then 181 articles were included in the study, 119 which were RCT's related to treatment, and 62 observational studies related to disorder outcome.

This slide shows a reason articles were excluded. The most common was sample size was too small. Another common reason was a wrong study design which includes treatment studies which were not RCTs. And did not include an outcome of interest, did not measure for individuals without anorexia nervosa, or sufficient information in the article to make comparison. We evaluated the quality of each of the treatment studies to a series of 25 questions in these 11 categories, with each question weighed equally and the categories you can see as part of the slide. We also graded the quality of the outcome studies to evaluation of 17 items in these eight categories. And each was weighed equally. Upon completion of our review, we rated the strength of the evidence based for the treatment and outcomes literature for each key question for each disorder. Used the same screen for -- scheme for the treatment and outcome literature. A strong evidence base and to be rated strong, studies of strong design, consistent result and free from serious doubts concerning being general, or flaws in the design. A moderate is a literature base strong design, inconsistency, bias, design flaws or sample size, and weak evidence base

includes just a limited number of studies of weaker design and finally no evidence base is the situation with no published literature. Now we are going to present the results of our study, and we'll begin with anorexia nervosa. And then Dr. Bulik's presentation of the treatment literature. We concluded that there was a moderately strong evidence base concerning anorexia nervosa outcomes. Studies were conducted internationally, and besides the U.S., included United Kingdom, Sweden, Germany, Norway, New Zealand, Australia and Japan.

One cohort study in Sweden, it conclude a comparison group that did not have anorexia nervosa and all other studies were case studies. In addition to eating related outcome, it persists over time. 6% of the individuals continued to be diagnosed with anorexia nervosa at five and ten-year follow-up. Among the treatment population, the percentage of the anorexia was twice as high, about 12% after five to ten years. For many, an anorexia nervosa diagnosis changes to other eating disorder diagnosis over time. In the cohort study, approximately a quarter of participants had some type of eating disorder diagnosis after ten years, such as bulimia nervosa, or eating disorder not otherwise specified. And treatment population, length of time, from about a third to a half of the group.

In a number of studies, approximately a quarter of the participants had no follow-up, ranging half of the studies. The factors associated included longer duration of the disease, associated with worse outcomes, worse eating related outcomes associated with depression and anxiety disorders, greater perfectionism, and other factors associated with worse outcomes, low or average body weight at intake. The AN group was more likely to

suffer from depression, anxiety disorders and substance abuse at follow-up. Sweden cohort study found Asperger syndrome and autism. Little data related to psychiatric or psychological outcome. Compare the comparison groups in follow-up. Individuals with anorexia nervosa were more likely to weigh less and have a lower BMI. Also less likely to have a regular or cycle menstruation cycle. Mortality outcome, a number of studies were reviewed, comparing anorexia nervosa groups to the overall population based on age and sex. Mortality is greater among those diagnosed with AN than in the population as a whole. Risk of suicide is particularly pronounced, as is a risk of death early in the follow-up period. Factors associated with increased mortality risk, alcohol and substance abuse, and greater severity of the eating disorder as measured by lower weight, more treatment admission, and worse overall functioning. In terms of AN outcome in relation to demographic characteristics, results were mixed in terms of whether age of disease onset is measured in outcome.

CYNTHIA BULIK: And now we are going to turn to the results from the treatment portion of the anorexia nervosa evidence based review. So in the next slide, we are looking at an overview of the treatment studies for anorexia nervosa. For this part of the report we identified 32 studies that were reported in 35 articles. 13 studies were excluded due to a poor rating. For medication trials, we identified the use of tricyclic and at tridepressants, second generation, various hormones and supplements. No study reported race or ethnicity and one study did not even report sex of the participants. Of all of the studies, only one used intention to treat analyses, and the sample size ranged from 15 to 72, with the average sample size quite small, at 23 participants. When we look at the total number

of individuals studied, we found 319 women, and only one man who were included in the trials. Drop-out rate was variable and ranged from 0 to 66%.

Next slide. The types of studies that we identified in the literature included eight medication only studies, we identified no studies that included medication plus psychotherapy that met the inclusion criteria. Six behavioral interventions that focused primarily on adults greater than or equal to 18 years old. Four behavioral interventions that focused on adolescents only, and one behavioral trial, a combined sample of adolescents and adults.

Now the next two slides given that this is a relatively small literature, just look at the eight studies that we identified in the medication only component of the report on anorexia nervosa clinical trial. The reason we have these slides detailed up there study by study is so that you can get an idea of the age range of individuals who were included in these studies. The drop-out rate, which you can see in parenthesis after the number of individuals enrolled in each trial, and also in the column on the far right you can see that we look not only at end point differences, asking were there differences between the active treatment and the placebo treatment, for example, at end point, but we also looked at change over time. And as you look through the next two slides, what you find is for the majority of these studies on our main outcome variables, there were no significant differences between the active treatment and the placebo control. Two of these studies look at Fluoxetine versus placebo.

The third Amitriptyline, and that they found there were fewer days to reach target weight and higher calorie intake. No difference in the Biederman study of Amitriptyline versus placebo, and the next slide, some differences noted but overall, no differences noted in terms of our most important outcome variable, and that is change in BMI. When we go to the next slide, we look at behavioral studies in adults. And in this slide we talk about the three primary types of psychological interventions that were applied to anorexia nervosa in adults. The first is cognitive behavioral therapy. The focus for most of the cognitive behavioral therapy was on features associated with maintaining eating and the pathology characteristic of anorexia nervosa. One study compared nutritional counseling after weight restoration and found there was indeed decreased relapse risk and increased likelihood of good outcome associated with cognitive behavioral therapy than with nutritional counseling.

The second study compared cognitive behavioral therapy with a non-specific form of clinical management, or interpersonal psychotherapy, IPT. What that study found, non-support of clinical management showed greater global good outcome than interpersonal psychotherapy. This study occurred in individuals who were not weight restored first. The second type of intervention that studies look at were cognitive analytic therapy. A type of therapy based on psychodynamic and behavioral principles. They identified no advantage over educational, behavioral intervention, or family treatment. And the last type of behavioral intervention that was looked at in adults with anorexia nervosa was family therapy. And there's some evidence to suggest that family therapy is less effective for adults, and those with chronic anorexia nervosa.

The next slide looks at behavioral studies for adolescents with anorexia nervosa. And for these clinical trials, most commonly they have looked at family therapy as the primary intervention. And one type of family therapy that received a lot of attention was a type of family therapy that focuses on the initial parental control of renutrition in the child. Overall, what the family therapies showed, there was some advantage with all family members seen together, including the patient, rather than separated family members. Family therapy you appears to be good for restoring menstruation, BMI. There don't appear to be differences between a relatively short course of family therapy, ten sessions over six months, or longer course of 20 sessions over 12 months for most patients. There is some suggestion those with more severe eating-related obsessions and non-intact families may benefit from a longer course of family therapy.

Next slide. Looking at the Harms associated with treatment for anorexia nervosa, the most common harm that was reported was a need for hospitalization during the clinical trial due to weight loss. In the second generation depressant, there were many things, and rarely some other things. What is based on the literature, whether the Harms are greater when the medications are administered in the underweight state? Also Harms are very rarely reported in behavioral intervention trial. The next slide looks at our key question that address factors associated with the outcomes associated with the clinical trials. No consistent factors associated with better or poorer treatment outcome across the studies that we reviewed. There were several subgroup analyses performed that by and large they were not planned, and had very small samples, so conclusions from these small

subgroup analyses have to be viewed with extreme caution. Then we would look at treatment efficacy by demographic variable, we find there was no information regarding different efficacy by sex, gender, race, ethnicity or cultural group. Scant evidence based on one study showing the interventions involving the family had greater efficacy for individuals below the age of 15 than for individuals older than that age. So if we look at the anorexia nervosa treatment literature overall, what we find is that for medication interventions, the literature is sparse and inconclusive.

We also find that for combination, medication and behavioral trials, there were no trials which we could base our conclusions on. No studies we could review that looked at the impact of combining medication and behavioral interventions for anorexia nervosa. We found CBT may reduce relapse risk for adults after weight restoration. But there's insufficient evidence to determine whether CBT is effective in the underweight state. Family therapy with the focus on parental control of renutrition, family therapy as current does not appear to be effective with adults with anorexia with longer duration of illness. The next slide looks at the strength of the evidence concerning the four key treatment questions that we addressed. The four columns of efficacy, Harms of intervention, factors associated with outcome, and diversity question. As you recall, a 1 is the strongest evidence, followed by 2, 3, which is weak, and 4 which is non-existent.

So in this slide, you can see that for medication and medication plus behavioral intervention, for both adults and adolescents with anorexia nervosa, the literature was either weak or non-existent across our four key questions. When you look down the slide,

you see for adults, again across the four key questions, the literature was graded as either weak or non-existent. For adolescents, a moderate rating was given for the efficacy question for adolescents with the remaining key questions again receiving questions of weak or non-existent. And perhaps most concerning is the diversity column, where across all four of our categories, literature was non-existent, addressing the issues of age, race, ethnicity, and gender, on outcome and sex on outcome for treatments for anorexia nervosa. The next section that we'll discuss has to do with outcomes and treatment for bulimia nervosa, and we'll begin that section with the review of the outcome literature by Dr. Berkman.

NANCY BERKMAN: Thank you. We found moderately strong evidence concerning bulimia nervosa related outcome, based on 21 good or fair rated articles. No cohort studies, no individuals were identified in the community so all of the case series studies, including individuals identified when they were in treatment, and only one study included a comparison group. Overall, half or more of the patients did not have an eating disorder at follow-up. Many experienced only a partial recovery, and 10 to 20% were diagnosed with bulimia nervosa in follow-up, showing the persistence. A 12-year follow-up, significantly more symptomatic. Depression and substance abuse were found to be related to worse outcomes. Age at onset was not a predictor. In relation to psychiatric and psychological outcome, outcomes of cross studies including depression, mood disorders and substance use and abuse. Little data was available concerning the factors relating to differences in these outcomes. Weight measures tended to improve over time. But we found no research concerning factors or characteristics associated with this change. And cross

studies, we did not find a heightened mortality risk with bulimia patients, as we found in anorexia, expected in the population of the same sex and age. Also in terms of demographic differences, we found no evidence of differences. Virtually all the studies were limited to female and most did not report on race, ethnicity, or cultural differences. Among those that did, none reported differences between groups. Next slide. When we look at the overview for the bulimia nervosa treatment literature, the body of literature is much larger than what we saw in anorexia -- [please stand by]

CYNTHIA BULIK: Ten studies excluded due to a poor rating. The medications that were used included second generation anti-depressants, tricyclic anti-depressants, and others. 31 studies failed to report ethnicity and the sample size for the bulimia nervosa studies had an average of 93 participants. Total number of individuals studied, over 3,000 women, and 69 men. Drop-out ranged from 0 to over 30%. 12 studies were medication only, six studies combined medication plus psychotherapy, 13 were psychotherapy only, four included various types of self-help, and three were other types of interventions. When we look at medication treatment for bulimia, focusing on Fluoxetine, 60 milligrams per day, six to 18 weeks, shown in several trials. 60 milligram better than 20 milligram dose, and considerable evidence where 60 per day of Fluoxetine to treat bulimia nervosa in the short-term. Evidence for the long-term effectiveness, a relatively brief medication treatment does not exist. Optimal strategy for treatment gain are unknown. There's preliminary evidence of the efficacy of trazadone and others. There was one trial that had an interesting decrease in binge eating and vomiting when patients could self-administer when they had urges to binge or purge. One trial showed a greater effect on reducing

vomiting than placebo, and the important outcome measure of abstinence from binge eating, it leads to an abstinence. Bulimia symptoms improve, they continue to persist. And the dropout in medication trials ranged from 0 to 51%. When we look at medication plus behavioral intervention, the combined medication plus behavioral intervention studies provide only preliminary evidence regarding the optimal combination of psychotherapy, or medication and self-help. Given the variety of designs used, evidence remains weak.

For the next slide, when we look at behavioral treatments for bulimia nervosa, focusing first on cognitive behavioral therapy within these trials, tended to focus on the cognitive and behavioral features. A large number of included trials provide evidence that CBT administered either individually or in group format is effective in reducing binge eating, purging, and psychological features of bulimia nervosa, in the short and long-term. CBT may act more quickly than interpersonal psychotherapy, and no advantage over the more economical group CBT approach. It requires replication. There's also some evidence that dialectical behavior is worth additional study. The next slide looks at treatment harm for bulimia nervosa. When we look at the second generation anti-depressants, the list of side effects is similar to anorexia nervosa and consistent with other studies and disorders. Nausea, sleep disturbance and dizziness. As is true with anorexia nervosa, Harms are rarely reported in behavioral or self-help trials for bulimia nervosa. The next slide looks at factors associated with treatment in bulimia nervosa.

Looking first at the medication trials. Greater concern for body, shape and weight, and longer duration of illness, had more favorable treatment responses. In the behavioral

trials, high frequency of binge eating and longer duration of illness were associated with poorer outcomes. The small number of self-help studies, rendering these results preliminary, higher perfectionism, compulsiveness, and lower cognitive behavioral scores were associated with better outcome. When we look at treatment efficacy by sex, gender, age, race, ethnicity, or cultural group, we find there was no information regarding differential efficacy of either medication only, combined medication plus behavioral interventions, or behavioral interventions on their own. By sex, gender, age, race, ethnicity, or cultural group. Looking at the treatment summary for bulimia nervosa, Fluoxetine, dose of 60 milligrams a day, between six and 18 weeks, associated with decreased short-term binge eating, and psychological features. 60 milligram dose performance better than the 20 milligram dose, some suggestion it leads to prevention of relapse at one year. Long-term effectiveness is unknown. Optimal duration of treatment and strategy for maintenance is unknown. For the combined drug and behavioral interventions, we only have preliminary evidence of the impact of combination of medication and psychotherapy or medication and self-help. Cognitive behavioral therapy, delivered either individually or in group format, this is associated with decreased binge eating, purging, and psychological features of bulimia in the short and the long-term. Further evidence is required to establish the role for self-help, and how best to treat individuals who do not respond to CBT or Fluoxetine are major shortcomings in the literature.

The next slide, the strength of the evidence concerning the four treatment key questions, and again the columns are our key questions dealing with efficacy, Harms, factors

associated with outcome and diversity. What we see for medication and medications of behavioral interventions, rated the literature and efficacy and Harms as strong for bulimia nervosa, and moderate for factors associated with outcome and diversity question was not addressed in the different trials. Behavioral intervention were also rated as strong and Harms were rated as non-existent. For self-help and other intervention, efficacy was rated as weak and across the board Harms, factors and diversity, literature rated as either weak or non-existent. At that point, we'll finish our discussion of bulimia nervosa and move on to our break.

SABRINA MATOFF-STEPP: Thank you, Dr. Bulik. This is Sabrina Matoff-Stepp. We will take a five-minute break now, I apologize for the technical difficulties we had midway there. We hopefully will not have any technical difficulties and I appreciate your staying with us for the remainder of the webcast that will begin after a five-minute break. Thanks very much.

SABRINA MATOFF-STEPP: Thank you everyone for coming back to our webcast on the management of eating disorder. We will now pick up about the discussion of binge eating disorder, followed by closing remarks and a session for you to ask your questions and answers. Please continue to send us your questions and answers and we will take them in turn. I will now turn the webcast back to Dr. Cindy Bulik and Dr. Nancy Berkman.

NANCY BERKMAN: Hello. As we have done with the other disorders, we are now going to discuss binge eating disorder, first outcomes and followed by treatment. Next slide,

please. Most likely due to primarily the newness of the topic, we found only three binge eating disorder studies that met the conclusion criteria to be graded as weak. The third was banding outcomes. One study found approximately three-quarters of patients had no eating disorders diagnosis and 6% had binge eating disorder at six-year follow-up.

Personality disorders were associated with a greater number of binge days at one year follow-up. In terms of psychiatric and psychological outcome, it improved over time and no biomarker data was reported in the two general outcome studies. In terms of binge eating disorder outcome differences by sex, gender, age, race, ethnicity or cultural group, as we have found in bulimia nervosa outcome, no relation in any of the groups. Now we will discuss treatment outcomes for binge eating disorder.

CYNTHIA BULIK: Next slide, please. If we look at the overview for treatment for binge eating disorder, you'll see we identified 26 studies, six of the studies were due to a poor rating. Medications that were examined included second generation anti-depressants, tricyclic, anti-convulsant, Orlistat. Sample size for the studies ranged from 20 to 162, with an average sample size of 62. Total number of individuals studied, 984 women, 87 men, 61 whose sex was unknown or unreported. The drop-out range was 0 to 40%, and important to keep in mind that for the majority of studies on treatment outcome for binge eating disorder, looking at two critical outcomes. One being binge eating, and the other being weight. If we look at the types of studies that were conducted for binge eating disorder, we identified nine medication only trials, four trials that looked at medication plus behavioral interventions, eight behavioral interventions, three self-help trials, and two that fell under a category of other.

Next slide. Starting with the medication only treatments, first looking at -- SSRI studies, noted there was a reduction in target eating, psychiatric, and weight symptoms, as well as global severity of illness. The abstinence from binge eating associated with SSRI administration are unclear. And the persistence of the cost of treatment effects is unknown. Low doses of Imipramine, one augmented dietary counseling, associated of binge eating and weight persist after medication. And there were some clinically significant trials over BMI. Drop-out rates of the medication, from 7 to 40%, and also of interest to note the placebo response in these studies was high. Looking at medications plus behavioral treatment, combinations were studied for Fluoxetine, Orlistat, and Desipramine. For binge eating disorder, combining medication and others, may have weight loss goal. The optimal is unknown, and for sustained reductions in binge eating and maintenance of weight loss is not yet addressed, apparently.

The next slide, looking at behavioral treatments for binge eating disorder, cognitive behavioral therapy was studied in trials that ranged from 12 weeks to five months in duration. CBT appears to be effective in reducing the number of binge days, or the overall number of binge episodes in individuals with binge eating disorder. CBT is associated with greater abstinence than weighting list, and that persists for up to four months of follow-up. Cognitive behavioral therapy also appears to improve the psychological aspects of binge eating disorder, dietary restraint, measures in hunger, and it's unclear the extent to which cognitive behavioral therapy improves depression in individuals with binge eating disorder,

and CBT does not reliably lead to decreases in weight. Like bulimia nervosa, dialectical behavior therapy appears to be worthy of further study in binge eating disorder.

Next slide. When we look at self-help treatments for binge eating disorder, we identified three trials that met our inclusion criteria. Self-help appears to be decreasing binge days, binge eating episodes and the psychological features associated with binge eating disorder. Appears to lead to greater abstinence of binge eating, and approximates those seen in face-to-face therapy trials. Self-help does not appear to be associated with decreased depression, or with weight loss. Next slide. When we look at the Harms associated for treatment with binge eating disorder, for SSRIs, the side effects or Harms trials were associated. And reports of headache, amenorrhea were reported. For Orlistat, more gastrointestinal problems than placebo. Harms are rarely reported in behavioral intervention trials. Next slide looks at factors associated with binge eating disorder treatment outcomes. And for these trials no consistently replicated factors were associated with outcome for binge eating disorder.

Next slide looks at treatment efficacy by demographic characters, and across the board and no information exists by differential efficacy by demographic parameters. So if we look at the next slide, which is overall conclusions for treatment for binge eating disorder, again, keeping in mind when we are looking at people with binge eating disorder also overweight, we are looking for two treatment outcomes, namely decreased or cessation of binge eating, and decreased of weight and maintenance and weight loss. Looking at the SSRIs, they appear to be Superior to placebo, but unknown if the changes persist after

drug discontinuation. When we look at combinations of medication and CBT, this approach may improve both binge eating and weight loss outcome, and CBT, administered either in group or individual format, decreased binge eating, greater abstinence than waiting list controls, it improves the psychological features of binge eating disorder, mixed results on depression outcome, and CBT appears to have little impact on weight. When we look at self-help treatments, we see decreases in binge eating, psychological features of binge eating disorders, greater abstinence and weighting.

The next slide shows the strength of the evidence concerning the four key questions for binge eating disorder treatment. Efficacy, Harms, factors associated with treatment and diversity. We'll start with diversity again, go down the far right column, and see again the literature is non-existent when it comes to discussing diversity and binge eating disorder. For medication, and medication plus behavioral medication, marked as moderate for efficacy, and by and large the medication trial did a good job in discussing Harms associated with treatment. Literature was weak for factors associated with medication outcome. For behavioral intervention, the literature was viewed as moderate for adults, and the Harms were again not reported, factors associated with outcome viewed as weak. And for self-help and other, the literature was viewed as weak. Harms non-existent, and factors associated with outcomes with these two approaches, again were viewed as weak. So if we move now from the specifics of binge eating disorder to the next slide, which gives us a general overview of the conclusions of the treatment studies for anorexia nervosa, bulimia nervosa and binge eating disorder, these are the conclusions that are

drawn from the literature. The literature on these three eating disorders is of highly variable quality. And we found the literature on anorexia nervosa to be the weakest.

Future studies in anorexia nervosa need to include large samples and multiple sites in order to obtain these large samples. The studies need to include appropriate biomarker outcomes, and they need to have a clear delineation of the age of participants, so we can better understand the extent to which treatment needs to differ across the age and the life-span. Future treatment studies for bulimia nervosa need to look at novel treatments for the disorder, and enhancement to CBT, so we can better serve these individuals who currently do not respond to CBT. We need to understand the optimal duration of intervention, and we need to understand optimal approaches of treatment for those individuals who do not respond to either cognitive behavioral therapy or medication. For future treatment studies for binge eating disorder, we need to keep in mind the two important outcomes of reduction of binge eating, as well as weight control. We need to understand the optimal duration of intervention, and we need to develop effective strategies for relapse prevention.

The next slide. Across all three disorders, we need to explore additional treatment approaches that target the core psychopathology of the disorders. And as was so clear across the three different disorder presentations, we need to pay more attention to factors influencing outcomes and Harms associated with treatment, as well as diversity in treatment response. The next slide presents conclusions associated with outcome studies. For the outcome studies, outline by Dr. Berkman, we need more prospective cohort

studies for all three disorders. These studies have to include comparison groups, and have to use appropriate multivariate statistical techniques. It's important to trace outcome across diagnosis. Crossover across the diagnostic categories is a common outcome in eating disorders. Our outcome research needs to take an age and life-span orientation, so we can understand differential outcomes by age, including age at onset. Many of the outcome studies were conducted outside of the United States. There were little data on racial and ethnic groups within the United States. And greater attention needs to be paid, especially in anorexia nervosa, to medical outcomes over time. The next slide includes some global conclusions. And this is looking at the literature overall, including both the treatment and the outcome research.

Needs to be increased cross talk between treatment and outcome research so the findings from one body of literature can be fed back into the other body of literature to better inform, design, and assessment. Replication especially in the clinical trials is critical. So often what we saw in the treatment studies were relatively small studies, small sample sizes that remained unreplicated, so we had very preliminary evidence, especially in anorexia nervosa, of the efficacy of the various types of interventions tried. We need to develop consensus definitions of remission, recovery, and relapse for all three disorders, as these were variably defined across many of the treatment and outcome studies. We also need to standardize outcome measures. There's a plethora of outcomes. We also need to make sure our outcome measures are appropriate for the age of patients being studied.

Finally, testified to by the fact that we had to focus our literature on binge eating disorder, greater attention needs to be paid to the disease presentations currently grouped under eating disorders not otherwise specified. And again, as was so clear throughout the presentation, greater attention needs to be paid to efficacy and outcome by sex, gender, age, race, ethnicity, and cultural groups. If we go to the next slide, Dr. Berkman and I would like to acknowledge the project staff at UNC/RTI, as well as members of the expert panel. All of whom were so valuable in helping us complete the report. And the bottom of the slide, you can see the link that goes to the report management of eating disorders. Thank you very much for your attention.

SABRINA MATOFF-STEPP: Thank you, Dr. Berkman and Dr. Bulik. That was quite informative. As Dr. Bulik let everyone know, I'm going to hold up now a copy of the report. It is available free of charge. You can download it offline or order a copy from the AHRQ clearinghouse. Please feel free to follow up after the web seminar and order a copy for yourself or download it online. I'm going to turn now to my colleague, Dr. Vivian Pinn, and a very important co-funder of the report for closing remarks.

VIVIAN PINN: I would like to begin by thanking Dr. Bulik and Dr. Berkman for a very clear and very interesting presentation of the comprehensiveness of the report that was prepared. We were very pleased with the actual report on the management of eating disorders and the extent of the recommendations as well as data that you provided, and I think this webcast has really reflected how well you have surveyed the literature and drawn conclusions that we all should take very seriously. I would like to also comment on

the fact that at this report represents something that fortunately I think we do see very often in the Department of Health and Human Services, and that is collaboration between our sister agencies within the department.

While this project was actually through the agency for health care, research and quality, is responsible for evidence-based reports, we had funding not only from HRSA but also from the national institutes of health, and this kind of collaboration is very important because it represents our ability to look at health issues, especially for women, but looking at issues for women and men, looking at sex and gender and other differences from the standpoint of biomedical, biobehavioral research, service outcomes and service implications and clinical implications. So I think this report is very important, not only in demonstrating what collaboration can do as we take the report and look to go forward, but having the report requested by the American psychiatric association, which I understand is planning a meet to think discuss the findings, more so in September, shows the collaboration between those involved and the clinical administration of services to patients and those involved in the hopefully important aspects of contributing to health care and standards of health care can do.

I was particularly struck as I hope members of the audience were with the conclusions that first of all pointed out how little information was actually in the literature about eating disorders that we know is a case also for other topics and that is little analysis related to sex and again -- and gender, how many males, how many females, are they old, young, looking at differences in adolescents, or the reproductive years, looking at racial

characteristics, or other characteristics that are factors that may contribute to differences in health status and the outcomes of the kind of treatments you were looking at. As we look to learn more about eating disorders. While the federal government cannot dictate editorial policy, certainly, at least with the law that NIH has requiring the inclusion of women and minority in clinical studies, we encourage, we require the reporting in the final reporting to the NIH, but we can only encourage editorial boards to consider the need and the importance of having this kind of data included in studies that are published, and I hope this report and your recommendations will further bring attention to the fact that we do need this data, that it does have important clinical implications, and we do need to know the sex and gender, as well as racial and cultural and age differences in the manifestation or success of treatment of conditions like eating disorders. And certainly I don't have to repeat them, but I was really struck by your very solid and very important recommendations for what we still need to look into in terms of research and future research agendas, as it relates to the different types of eating disorders that you have studied, and presented to us today. I would love to go further.

I thought it was a wonderful report. I thought your presentation was so clear, and I thought there were so many things that you brought forward that are so important. Especially the need for us to have more information just about what the causes are, why do people have, men or women, and why, why do we see these eating disorders more often in women than in men, why do we see perhaps in adolescents than mature population, and what about psycho therapeutic and other therapies that will be more successful in helping us to overcome, prevent, and if not prevent, to cure those who are suffering from these

conditions. So with that long brief statement, I guess my bottom line is I find the report very exciting. It also is very stimulating in that it demonstrates so many deficiencies in what we do know, but every time we learn something about deficiency to me it represents a real challenge to further take our scientific agenda forward. So thank you.

SABRINA MATOFF-STEPP: Okay. A lot to offer and a lot to say, so I'm glad to include her in the activities we do. We have some time now for questions and answers. Throughout the broadcast you have been seen some messages pop up that allow you to enter a question. Please continue to do that. I'm going to read the questions as they come in, just first come first served, and pose them to the speakers. If a particular question was posed to a particular speaker I will acknowledge that. Otherwise I will throw out the question to the speakers and have them hopefully give an answer that will provide the information that is needed. So I know there are a lot of questions out there. We'll get started. The first question is I think a question that a lot of people have. It wasn't exactly addressed in detail in this report because we focused more on treatment, but of course a lot of people are interested in prevention when it comes to eating disorders, and so the first question that came in had to do with exactly that topic, and the question is could you please address recommendations for prevention of eating disorders?

CYNTHIA BULIK: Well again, and I think this is Cindy Bulik, Sabrina mentioned this, one of the things that we did not look at in this study because our brief very much was just to look at treatment studies as well as to look at outcome studies, prevention was not part of our brief in developing this report. But yet one of the things that I think we are comfortable

in saying is that looking at the outcome literature, that Dr. Berkman presented, especially for anorexia nervosa, I think it highlights the critical importance of more work on prevention of eating disorders. If we can intervene early, and as Dr. Pinn suggested there seems to be some suggestion if we intervene early we might have better outcomes, especially with anorexia nervosa. Prevention is critical when coupled with early intervention, so we might be able to keep people from developing these long-term chronic debilitating and often fatal courses. So in terms of recommendations for prevention, we cannot give them based on this report. We can whole heartedly support the notion that prevention is critical to prevent the outcomes that we noted.

SABRINA MATOFF-STEPP: Okay. Thank you. Our next question has to do with the diversity issue, and it follows, although there is no information relating to diversity for outcomes with anorexia, isn't it true that the disease is most prevalent in white, middle class, female adolescents?

CYNTHIA BULIK: There are several answers to that question. The most important one is if the question has to do with prevalence within the United States, our data is limited when it comes to that question. There are some studies suggesting that anorexia nervosa is somewhat less prevalent in the African American population, but at the same time, we still don't know the extent to which that is due to under detection and under reporting. So there is more work to be done before we could see that sort of stereotypical picture is indeed. What we see in the clinic is more diversity than the stereo type would have suggested we see. So I think it's critical we do whatever we can to not perpetuate the stereotype, and to

help the people feel comfortable coming forward who don't meet the stereotype. What we so often see is men who have difficulty reaching out for treatment for fear of having a woman's disease, or African American patients told by their doctors that they couldn't have that disorder because they are African American, and that's a white person's disease. So that's not really serving anyone's best interest. We need to make sure that we get those data so we can give accurate numbers and understand the extent to which the disorders afflict across race, age and gender. And looking at binge eating disorder, we know it spans socioeconomic, as well as sex boundaries. Not the same kind of stereotype as had been perpetuated with anorexia nervosa with the new disorder we are seeing.

SABRINA MATOFF-STEPP: Thank you. Could you explain could go cognitive behavioral therapy, in 20 words or less. No! A little more for people who are not as familiar with that form of therapy.

CYNTHIA BULIK: Sure. Cognitive behavioral therapy is based on looking at the thoughts that one has about, for example, one's body image, binge eating, purging, and those thoughts are unhealthy thoughts, and may serve to perpetuate unhealthy feelings and behaviors. So what cognitive behavioral therapy does, it really, the therapist helps the patient identify irrational or unhealthy thoughts associated with their disorder. So a classic example is someone who opens up a box of cookies, and eats four or five of them and says I have already blown it, I may as well go ahead and eat the whole thing. Well, that thought right there is what we call an automatic thought. And the therapist would work with the patient to identify those automatic thoughts and then learn to replace them with

healthier alternatives. It might be something like I had five and starting to feel out of control, but I know I can put the brakes on, then I can move on and did something else to get myself out of the kitchen. It's very much an active therapy and looks at and works with developing healthier ways of thinking about one's self and one's eating problem.

SABRINA MATOFF-STEPP: Thank you. Our next question, and again all of these questions are coming in general, so either speaker please feel free to answer. The question is what kind of providers are the ones diagnosing eating disorders primarily? Primary care providers, mental health providers, nurse practitioner, or other?

CYNTHIA BULIK: I think -- it's Cindy again. Commonly I think many people, many more people are in a position to diagnose eating disorders than actually do. And this has to do with the whole issue of educating the provider work force. So that people actually screen for eating disorders and learn how to, to diagnose accurately. What we commonly see, in addition to the health care providers that were mentioned in the question, we get a lot of referrals from coaches and teachers and school nurses, so there are a lot of people who are working with adolescents, with athletes, who see signs of an eating disorder and then may refer the person on for more specialist assessment, diagnosis and treatment. Just as has been true with depression, by educating primary care physicians to identify depression in their practices, the same can be done with eating disorders, learn how to ask the question so they then know how to refer on when necessary for more detailed evaluation and assessment.

SABRINA MATOFF-STEPP: Okay. The next question has to do with bulimia. There was mention that perfectionism and greater intimacy problems are associated with better outcomes. Want to make sure this is what was reported as the slides were moving very quickly. So I think a clarification of that particular finding.

CYNTHIA BULIK: I think that finding was, goes back to the self-help literature, and was indicated as being very preliminary. As I think one or -- one study may have identified that. So that was not a global predictor of outcome across the various treatment modalities, but just one very preliminary finding that was observed in the self-help literature for bulimia nervosa.

SABRINA MATOFF-STEPP: Okay. Next question. Did you find any information regarding how clients with anorexia nervosa, bulimia nervosa, and binge eating, act together in treatment? In other words, how did they help or hurt each other in recovery?

CYNTHIA BULIK: Actually, we do not have information about that because one of the things that we did when we looked at the literature was we looked at studies that studied treatments that focused on one particular diagnostic group, so we did not include studies, for example, that would have included all three of those diagnostic groups in an intervention. And in fact, I'm not sure we even came across many studies that did that. So I don't know if those data exist, and they definitely would not have been included in this report.

SABRINA MATOFF-STEPP: Okay. Next question. What constitutes self-help treatment?

CYNTHIA BULIK: There were several different types of self-help treatment that were reported in, in these disorders. Some of them included things like using a book that would take someone through the sorts of information you would commonly get in cognitive behavioral therapy. Some of them used approach that was a little bit more, had a little bit more provider contact that would have been called guided self help, where the person could have been given such a book, but then also had occasional meetings at a primary care office, for example, to review some of the things that they did in that self-help book. Some of the other approaches being explored and that we also included in our future directions are using various types of technology and optimizing those, Internet-based intervention or CD rom intervention.

SABRINA MATOFF-STEPP: What is the waiting list control?

CYNTHIA BULIK: Many of the studies will have a, they will enter, for example, two groups of patients at the same time. And a person will be randomized, either to an active treatment, cognitive behavioral therapy, or a waiting list control. And everybody in both groups will be assessed at the beginning of week one. The people in the cognitive behavioral group will go on then to receive, for example, ten weeks of cognitive behavioral therapy. The people in the waiting list control will be told that they have to wait ten weeks in order to receive their first intervention. Both groups will then be assessed at ten weeks, which is the end of the active treatment period for the people in the cognitive behavioral

group. And what that design allows you to see is how much more the people in the cognitive behavioral group have changed than those people who have just been waiting and experiencing the natural course of their illness. Then those waiting list control people go on to receive an active intervention. So it's a delayed treatment condition.

SABRINA MATOFF-STEPP: Okay. Good. Next question, did you find any relevant information regarding bypass intervention for binge eating disorder?

NANCY BERKMAN: Laparoscopic study, we found just one study and we found the results were good for the binge eating disorder population in that study.

CYNTHIA BULIK: We Did not include in the treatment component any clinical trials that attempted to treat binge eating disorder with laparoscopic surgery. So that was not included in the clinical trials.

SABRINA MATOFF-STEPP: Okay. Next comment and question, combination, good positive feedback here, we have a vote of this was a wonderful summary of the evidence. And a question about how this relates to obesity. Any advice about how to manage obesity without triggering an eating disorder?

CYNTHIA BULIK: I think that's -- thank you for the positive feedback but I think that's a wonderful question. And especially now where we are in a position of having to come up with rational and effective ways of both preventing and treating obesity. Now is the time

when people in the eating disorders field need to work hand-in-hand with people in the obesity field. Because we know enough now about the sorts of things that can trigger unhealthy eating behavior, especially in young children, adolescents. So we want to make sure that the prevention approaches for obesity basically are not going to give us more business. We don't obesity prevention programs to lead people to unhealthy weight control practice, develop more negative body image and go down the path of developing an eating disorder. What we are looking at, we are looking at prevention strategies that meet somewhere in the middle between obesity and eating disorders so that the approaches we take, both of them, to prevent both disorders, can effectively look at healthy eating and healthy physical activity, pulling both ends away from the extreme, more towards the middle where we are really looking at healthy behaviors on both of those parameters. So I think, again, speaking of cross talk, the more cross talk between the two fields, the better position we'll be in to help each other with our prevention efforts.

SABRINA MATOFF-STEPP: Okay. The next question has to do with medication dosages, other than with the bulimia study, did you find any relevant information regarding medication at different doses for the other disorders?

CYNTHIA BULIK: That would be something that we would have to refer the question asker back to the report for, because there were so many clinical trials that looked at medication, it would be virtually impossible to go through all the different doses looked at. If you go up to that link or order a copy of the report, for each study that we looked at, we

do have the dosage information there so you'll be able to get very specific answers to that question.

SABRINA MATOFF-STEPP: Okay. Here is a question that I don't know if there's one answer to either. What are the causal factors in the development of eating disorders?

>> I'm just looking at my watch to see how much more time we have.

>> Some of them.

>> That's a great question. It's a wonderful question. And it's not something we addressed in the report but I think we should give it a minute now while we have people here on this webcast. And I think what we need to look at for the eating disorders is a combination of both environmental and biological factors. We have been doing a lot of work over the past decades looking at genetic underpinning of eating disorders, and this is really critical, again talking about stereotypes. For the longest time eating disorders have been viewed as disorders of choice, or somehow caused by the environment. And one of the things we found across all three of these eating disorders is that genetics and hence biology plays a substantial role in risk for the disorder. But genes don't act alone. So we need to not take our attention away from the causal environmental factors as well. We know we live in a toxic environment when it comes to thin body ideal and putting unrealistic standards of weight in front of young women and shape and fitness and low body fat in front of young men as well. So there are some models out there that may be triggers for the underlying predisposition we need to work with to develop healthier societal attitudes of body weight and fitness. The best way to think about this is not looking at nature or nurture, but looking

at the way nature and nurture interact to lead to anorexia, bulimia, and binge eating disorders.

SABRINA MATOFF-STEPP: Okay. Next question. Is the referral abstinence mean patients to refrain from treatment?

CYNTHIA BULIK: Could you ask the question again?

SABRINA MATOFF-STEPP: Reading it word for word. Is the referral abstinence mean patients to refrain from treatment?

CYNTHIA BULIK: Okay. I think, I'm going to focus on the term abstinence. That might be what the question is about. And when we were talking about abstinence as an outcome measure, what we meant is looking at the complete cessation or stopping whatever the behavior is that they were targeting in the treatment. So abstinence from binge eating means zero binge eating. Abstinence from purging means zero purging the important thing about that is one of the things found in the bulimia nervosa literature is on one hands it might look good for someone to say our treatment reduced binging by 50%. But if the person was binge eating ten times a week, and treatment got them reduced to five times a week, the person still has serious symptomatology. We want to make sure people look at complete abstinence. So how many people are really rid of the symptoms by the end of treatment. That's what abstinence refers to.

SABRINA MATOFF-STEPP: Context is everything. Another couple of questions actually from within our small gathering here in Maryland, how do cultural issues impact eating disorders, for example, value placed on very thin women as role models, which I think you just touched on, Dr. Bulik, a little bit.

CYNTHIA BULIK: I think, and again this is not in the report, but there's very interesting data from Anne Becker, we did some work in Fiji, who looks at the prevalence of eating attitudes in a culture there wasn't exposure to the western ideal at all, and she looked at a part of TV in Fiji, and then after the television was introduced. And found the introduction of the western ideal led to the eating disorders in the group. So I think culture can set the stage for the development of these disorders, especially in vulnerable individuals.

SABRINA MATOFF-STEPP: Okay. Did research from other countries shed any light on the particular, what you just think, I think you just said, research from other countries shed any additional information on the aspect of culture?

NANCY BERKMAN: There was actually very little information in terms of diversity from, in any of the studies that we looked at, and some of the information in terms of race and ethnicity, if it had been developed for other countries may not be relevant for the U.S. but overall, there was very little data. So there was nothing that we gained from any particular country.

CYNTHIA BULIK: One thing that Dr. Berkman might be able to speak to that is somewhat related is the value of some of the outcome studies from other countries.

NANCY BERKMAN: That's true. We did gain a great deal of information from other countries, for example, the one cohort study was from Sweden, and that gave us very valuable information in terms of anorexia nervosa, so there was information international that can be useful for the United States.

SABRINA MATOFF-STEPP: Okay. One more question here, and maybe put out one more call for any last questions. What is the picture of eating disorders in less economically developed countries?

NANCY BERKMAN: We didn't actually find any literature in less developed countries. We didn't limit our studies based upon sort of what people would call the third world or the more developed world, and there was just no data that met our criteria that came back. Cindy had seen some other studies that might not fit, she might have some knowledge.

CYNTHIA BULIK: Right. Because if you go back to the early slides that talk about our inclusion criteria, we were really looking at larger studies in terms of the outcome studies, and larger studies in terms of the clinical trials. And much of the literature from underdeveloped countries is focusing on more what the prevalence of the disorders are, and some countries we are at the level hearing about case reports. So five cases of reports show up in a particular country. It would not have been in this report. But

nonetheless, you know, one thing that we can speak to is some of the cross cultural presentations of eating disorders. And one of the things that is emerging from some of the literature in Asia is that although anorexia nervosa does appear in many countries in Asia, it's not always coupled with the same fear of fatness we see in anorexia nervosa as diagnosed in the United States. So what we might be seeing is cultural differences in the way in which these disorders present. But again, this literature is very much in its infancy, and another important direction for future work in the area.

SABRINA MATOFF-STEPP: Okay. One more question that I think I'm going to throw out to the speakers that's always been a question I've been interested in is the issue of recovery. Recovery is unique to every individual, and yet it's important for research purposes to have some kind of a standard or some kind of a operationalzation. How would you craft a definition of recovery that is of use to both patient, to the clinician, to families, any thoughts on that topic?

NANCY BERKMAN: I think actually that's a very good question because one of the things we found in the literature was it wasn't consistent across studies. There does not appear to be a consensus in terms of that issue. As a clinician, Dr. Bulik –

CYNTHIA BULIK: It's interesting. A lot of studies will use criteria like recovered for a year, and menstruation again. That does not touch the psychological components of the disorders. And one of the things in the outcome studies, a lot of the women are at low weight. And also finding, for example, long-term problems with having lower birth weight

babies, more reproductive complication, and what we don't know, whether a lot of the women are flying under the radar with subthreshold symptoms. I think what we need, and I agree with Nancy, we need a very careful look at what the best definition of recovery is, that looks at body mass index, that looks at menstruation functioning, and also the psychological impact of the disorder. If the weight is close to the normal range, menstruation, but troubled by body dissatisfaction, fear of fatness, they are still in distress and that's not having a complete recovery in my book.

SABRINA MATOFF-STEPP: Okay. Well, we actually got to all of our questions that at least were sent in. I'm sure people will think of more questions after the webcast because you always think of something after the program is over, but at this time I think we have actually made it to the end of our webcast, and I really would like to thank our speakers, Dr. Nancy Berkman, Dr. Cynthia Bulik, Dr. Pinn, Dr. Van Dyck, and University of Illinois at Chicago for all of their help with this webcast. Please fill out your evaluation that is going to be available to you at the end of this webcast. The webcast in its entirety will be available, it will be archived at the web site where you registered at www.mchcom.com In about a week in about a week or so. So at your leisure you can go back and review and see different parts you want to review. And the slides, we have gotten a lot of questions about the wonderful slides that Dr. Berkman and Dr. Bulik provided for the webcast. They are available also at the www.mchcom.com for downloading. So thank you so much. Any last remarks from our speakers that we would like to share at this time?

NANCY BERKMAN: We had -- we would like to thank you for giving us the opportunity to review our study. It's a great opportunity for us.

CYNTHIA BULIK: Thank you very much.

SABRINA MATOFF-STEPP: Thank you everyone.