

Supplementary Table 1: Studies of Clinician Reactions to Eating Disorders

	Authors and Year	Clinician Sample	ED Population	Comparison Group	Clinician Reaction Measure	Clinician Reaction Definition	Main Findings
1	Brotman, Stern, & Herzog (1984)	First year residents in medicine, psychiatry and pediatrics at private hospital. Male and female. (N=29)	Vignettes of hypothetical female patients with anorexia	Vignettes of hypothetical female patients with obesity and diabetes	Did not use previously published instrument. Questionnaire assessed emotional reactions.	"Emotional reactions towards patients."	<ol style="list-style-type: none"> All residency groups experienced significantly greater anger toward patients with AN and obesity than patients with diabetes. All residency groups experienced greater dysphoric affect toward patients with AN relative to other groups at the trend level of significance.
2	Blum (1987)	National sample of primary health care physicians (internists, family practitioners, and pediatricians). Male and female. (N=351)	Adolescents with EDs	Adolescents with 18 other dimensions of health care issues.	Comprehensive survey of knowledge and attitudes toward a wide range of adolescent health issues.	"Perceived deficiencies"	<ol style="list-style-type: none"> All primary health care physicians reported self-perceived deficiencies in treating high-risk problems of youth, including EDs, as well as substance abuse and delinquency, and emotional problems in general.
3	Blum & Bearinger (1990)	National sample of various health care professionals (physicians, nurses, social workers, nutritionists, and psychologists). (N=3066)	Adolescents with AN/BN	Adolescents with 15 other dimensions of health care issues.	Comprehensive survey of knowledge and attitudes toward a wide range of adolescent health issues.	"Self-perceived limitations; perceived competency"	<ol style="list-style-type: none"> EDs were the second-most often reported area of self-perceived limitations among M.D.s out of 16 areas; 54.5% of M.D.s reported self-perceived limitations in treating AN/BN. 62.4% of psychologists and 66.7% of social workers reported self-perceived limitations related to psychological sequelae of AN/BN. Almost half of nutritionists revealed low levels of perceived competency in almost all adolescent food-related concerns.

4	Fleming & Szmukler (1992)	Medical and nursing staff on medical and psychiatric units, with various levels of training, in a general hospital in Australia. Male and female. (N=352)	Patients with AN or BN.	Patients with schizophrenia; patients with recurrent overdoses.	Did not use previously published instrument. Asked to identify etiological factors, assess knowledge. Asked to rate the degree to which they liked dealing with ED patients on a 5-point scale.	“Attitudes towards patients with EDs.”	<ol style="list-style-type: none"> 1. Patients with AN were held significantly more responsible for the cause of their illness than other groups. 2. Cause of AN was most frequently identified as an 'emotional problem' in contrast to schizophrenia, the cause of which was identified as 'physical'. 3. Medical students who had an 8-wk ED psychiatry rotation showed no significant change in blame or liking for patients with AN. In contrast, liking increased for patients with schizophrenia.
5	Burket & Schramm (1993)	Clinical faculty (psychology, medicine trainees) at private psychiatric hospital. Gender not reported. (N=90)	Consider ED patients 'generally' including patients with specific diagnoses	n/a	Did not use previously published instrument. Asked to respond to questions addressing feelings about patients with EDs; desire to treat patients with EDs; and reasons.	“Treatment desires, counter-transference, treatment approaches, and prognosis.”	<ol style="list-style-type: none"> 1. Most common feelings were frustration (87%) and anger (63%). 2. Thirty-one percent indicated they did not like/desire to treat EDs. 3. Men were more likely than women to report reluctance to treat patients with EDs. 4. Clinicians underestimated the likelihood of recovery for both AN and BN.

6	Franko & Rolfe (1996)	Clinicians (psychologists, social workers) in different settings who self-identified as specialists in EDs. Male and female. (N=71)	Recall of last session with patient with AN, BN (without personality disorders) between ages of 14 - 40 years, in individual psychotherapy for at least 6 months.	Patients with Dysthymia (without personality disorders) comparison group.	Did not use previously published instrument. Visual analogue scale to rate intensity of emotional responses.	"Intensity of emotional response"	<ol style="list-style-type: none"> 1. Frustration was most common emotional response (87%). 2. Clinicians reported being significantly less Connected to patients with AN than patients with either BN or Dysthymia. 3. Clinicians reported feeling less Successful with patients with AN than patients with either BN or Dysthymia at the trend level. 4. Less experienced clinicians (in EDs) were significantly more Frustrated with AN patients. than other patient groups relative to more experienced clinicians (in EDs). 5. ED case load (≥ 8 patients/wk) produced significantly higher ratings of Frustration, Helpless/Hopeless, and Manipulation. 6. 98% report supervision or consultation, 24% report experience in the field and self-reflection promotes coping with feelings.
7	Sansone, Fine, & Chew (1998)	Primary care nurses in private hospital (half recently started on ED unit; other half worked on non-psychiatric unit). Female. (N=23)	Patients with EDs on inpatient unit. Characteristics not described.	Patients treated by non-psychiatric nurses.	Did not use previously validated instruments. Impressions of Patient Population Survey (26 items) assessing frequency of negative patient characteristics; Attitudes toward Patient (1 item)	"Stress of working with ED patients"	<ol style="list-style-type: none"> 1. ED unit nurses working reported less distorted attitudes towards eating, less positive impressions of patients, greater job satisfaction, and lower body weights than non ED unit nurses, all at the trend level of significance.

8	Morgan (1999)	Gynecologists and obstetricians with more than 1 year of experience from four teaching hospitals in Australia and the United Kingdom. Male and female. (N=115)	Patients with AN and BN	n/a	Did not use previously validated instrument. 26-item questionnaire was developed covering aspects of diagnosis, gynecology, treatment, and attitudes.	“Attitudes” regarding the etiology of EDs, including weakness, cultural factors, mental illness, or neuro-physiological	<ol style="list-style-type: none"> 1. 80% reported lack of confidence in diagnosing EDs. 2. 31% reported agreement with the following pejorative attitude toward patients with EDs: “abnormal behavior in the context of a weak, manipulative or inadequate personality” 3. Males were more likely than females to report this pejorative attitude. 4. Errors in identification of diagnostic criteria, including gynecological issues, were common, and recovery underestimated.
9	Shisslak, Gray, & Crago (1999)	Professionals across disciplines ordinarily involved in the treatment of EDs (psychologists, nutritionists) at an ED conference. Male and female. (N=71)	Clinicians who engage in current binge eating; and clinicians with a prior history of AN and/or BN.	Clinicians who were normal eaters	Did not use previously published instrument. 40-item questionnaire to explore reactions to working with patients with EDs, particularly regarding eating and body image.	“Therapists' reactions to working with an ED patient.”	<ol style="list-style-type: none"> 1. Clinicians who engage in binge eating and individuals with a history of AN/BN were significantly more aware of feelings about their bodies than normal eaters. 2. 28% percent of the total sample reported being moderately to greatly affected by their work, characterized by a positive change in body image.
10	Gurney & Halmi (2001)	Social workers in six community medical clinics in New York. Female. (N=9)	Patients with EDs	Attitudes before and after 4 75-minute training sessions (6 month follow-up).	Did not use previously validated instruments. Used the 14-item Primary Care Provider (PCP) Attitude Questionnaire; the 11-item PCP Practice Questionnaire; and the 30-item PCP Knowledge Questionnaire.	“Provider’s perceived ability to intervene.”	<ol style="list-style-type: none"> 1. Across time points, social workers perceived ability to intervene remained from the mid- to the low- point in the range of possible responses. 2. Though knowledge and screening practices improved significantly, a knowledge-based training program did not improve perceived ability to intervene post-training or at six-month follow up.

11	Boulé & McSherry (2002)	General family practitioners in London, Ontario. Male and female. (N=236)	Patients with EDs	n/a	Questionnaire modeled after a previously validated instrument. 22 items assessing comfort with ED patients, practice patterns, training, and demographics.	“Attitudes and behaviors of family physicians toward patients with EDs.”	<ol style="list-style-type: none"> 1. Family practitioners were more comfortable with diagnosis and less comfortable with management. 2. The majority of practitioners were somewhat or very uncomfortable with management. 3. Female family practitioners were more likely to routinely screen for EDs than male family practitioners.
12	Loeb, Wilson, Labouvie, et al. (2005)	Protocol therapist-patient pairs in a multi-site therapy treatment trial. Gender not reported. (N=8 clinicians treating N=81 randomly-	Patients with BN treated with cognitive behavior therapy	Patients with BN treated with interpersonal therapy	Modified version of a validated instrument. The Vanderbilt Therapeutic Alliance Scale, rated for therapist and patient pair by independent raters	“Therapeutic alliance dimensions applicable to cognitive behavioral and interpersonal therapy”	<ol style="list-style-type: none"> 1. High levels of alliance were reported across treatments and therapists. 2. Better levels of adherence to treatment protocols were associated with better alliance. 3. Symptom change may have accounted for positive alliance but limitations in methods made this difficult to assess.
13	Winston, Baxter, & Rogers, (2007)	Professionals across disciplines from two towns in England with different ED services. Male and female. (N=512)	Patients with AN and BN	Clinicians from Leicester (with a specialist ED service) compared to those from Nottingham (with no specialist ED service)	Did not use previously validated questionnaire. 30-item questionnaire assessed attitudes (e.g., blaming) toward patients and factual knowledge about eating disorders (e.g., mortality).	“Attitudes toward and knowledge of EDs.”	<ol style="list-style-type: none"> 1. Female clinicians had more positive attitudes than male clinicians in both towns. 2. No relationship between knowledge and attitudes was detected. 3. General practitioners and psychiatrists had more knowledge in the town where there was no specialist service. 4. Dietitians and medical specialists had more positive attitudes in the town where there was no specialist service.
14	Crisafulli, Von Holle, & Bulik (2008)	Nursing students. Female. (N=115)	Vignettes of patients with AN with information about biological influences	Vignettes of patients with AN with information about sociocultural influences	Adapted from previously validated instruments. Opinions Scale (reflecting stigmatizing attitudes); Affective Reaction Scale (reflecting range of emotions).	“Attitudes and affective reactions towards individuals with AN”	<ol style="list-style-type: none"> 1. No significant difference between groups on affective reactions. 2. Significant difference between groups on blaming, wherein the group provided with information on sociocultural influences on AN reported more blaming attitudes than those provided with information on the biological influences on AN.

15	Currin, Waller, & Schmidt (2008)	Primary care physicians in England. Male and female. (N=154)	Vignettes of patients with AN and BN	n/a	Did not use previously validated instrument. Developed Attitude Questionnaire, including 10 items reflecting statements regarding prognosis, responsibility, and blame.	“Attitudes towards individuals with EDs”	<ol style="list-style-type: none"> 1. Primary care physicians had an overly pessimistic view of AN treatment outcome (76% thought illness duration was 8 years) both generally and relative to BN. 2. Physicians believed patients were responsible to control symptoms. Attitudes toward illness not affected by degree of knowledge of EDs. 3. Offering patients a follow-up visit associated with high knowledge of illness and with belief that AN was within patients' control and responsibility.
16	Friedman, Ashmore, & Applegate (2008)	Doctors whose behavior was reported by obese individuals seeking gastric surgery. Male and female. (N=94 patients describing doctors they had seen in the past month).	Obese binge eaters	Obese non-binge eaters	Used a previously validated instrument. The Stigmatizing Situations Scale includes eleven stigmatizing categories including “inappropriate comments from doctors.”	“Inappropriate comments from doctors”	<ol style="list-style-type: none"> 1. Weight discrimination overall (sum of all stigmatizing situations) was significantly associated with a diagnosis of binge eating disorder.
17	Warren, Crowley, Olivardia, & Schoen (2009)	ED treatment providers from varying disciplines at an ED conference. Various disciplines. Male and female. (N=43)	Experiences treating patients with EDs in general	n/a	Did not use previously established instrument. Asked open-ended questions about working with patients with EDs that were analyzed qualitatively.	“Personal experiences working with patients with EDs”	<ol style="list-style-type: none"> 1. Hardest aspects of working with ED patients reported were difficulty treating and changing severe symptomatology. 2. Two most endorsed areas of advice to therapists were to obtain supervision and maintain social support. 3. 54% reported eating habits affected by working with patients with EDs; greater number of clinicians reported more positive habits. 4. 50% reported increased self-criticism and vigilance regarding their own and others' body size following sessions with patients with EDs.

18	Satir, Thompson-Brenner, Boisseau, & Crisafulli (2009)	Doctoral-level clinicians (psychiatrists, psychologists). Male and female. (N=120)	Most recent current adolescent female patient with any ED treated more than 6 sessions, less than 1 year.	n/a	Used adapted version of previously validated instrument, the Countertransference Questionnaire for Adolescents. 87 items designed to measure range of thoughts, feelings, and behaviors expressed by therapists towards patients.	“All reactions a clinician has towards a patient regardless of their source”	<ol style="list-style-type: none"> 1. Clinicians did not report high levels of negative feelings toward adolescent patients with EDs. 2. Highest overall affect reported was Warmth. 3. Highest negative affect was Incompetence. 4. Dysregulated and Constricted personalities associated with higher Frustration and lower Warmth. 5. Males reported greater Warmth and more feelings of Frustration than females. 6. Psychiatrists endorsed greater Frustration than psychologists. 7. Amount of experience did not predict levels of negative reactions.
19	Linville, Benton, O’Neil, & Sturm (2010)	Medical providers (family physicians). Male and female. (N=183 questionnaires, N=12 in-depth surveys)		n/a	Questionnaire and interview with systematic qualitative analysis.		<ol style="list-style-type: none"> 1. 78% of providers reported having patients with EDs that they were unsure how to treat. 2. Themes of “fear of incompetence;” “difficulty treating eating disorders;” and “desire for increased eating disorder trainings” emerged from qualitative interviews.
20	Reid, Williams, & Burr (2010)	Health care professionals in ED treatment settings in the U.K. (N=18)	Patients with EDs	n/a	Qualitative, semi-structured interviews with systematic qualitative analysis.	“Perspectives of eating disordered patients and services”	<ol style="list-style-type: none"> 1. Theme identified regarding the complexity of treating EDs within the limitations of available resources. 2. Theme identified regarding the heterogeneity of patients with EDs and their needs for individualized services. 3. Authors conclude evidence did not support prior research suggesting clinicians find ED patients “difficult, but rather that treating them is difficult within the context of limited resources.

Abbreviations:

AN = anorexia nervosa

BN = bulimia nervosa

ED = eating disorder

Note: Study conducted in the United States unless otherwise noted.

