CME ACTIVITY

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CME Objectives

After completing this CME activity, the psychiatrist should be able to:

- Recognize anger attacks as a cause of subjective distress and a symptom associated with aggressive acts
- Measure how anger is more commonly expressed toward immediate family members compared with those outside the home
- Recognize that direct questioning is required to elicit information about problems with anger to ensure that anger attacks become a focus of treatment

Statement of Need and Purpose

Physicians responding to articles in *The Journal of Clinical Psychiatry* and its related CME activities have indicated a need to know more about the diagnosis and management of anger attacks and related symptomatology. This CME enduring material presents current information to address that need. There are no prerequisites for participating in this CME activity.

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Anger Attacks: Correlates and Significance of an Underrecognized Symptom

Oommen K. Mammen, M.D.; M. Katherine Shear, M.D.;
Paul A. Pilkonis, Ph.D.; David J. Kolko, Ph.D.;
Michael E. Thase, M.D.; and Catherine G. Greeno, Ph.D.

Background: Anger attacks over provocations described as trivial by the individual are an underrecognized symptom associated with aggressive acts. They are usually followed by guilt and regret. Anger attacks among mothers are an important problem because they are often directed at the woman's spouse and/or children. This study examines the prevalence and correlates of anger attacks in a psychiatric clinic for women who are either pregnant or up to 18 months postpartum.

Method: Fifty consecutive consenting patients were assessed at initial presentation with the Structured Clinical Interview for DSM-IV Axis I Disorders, a modified Anger Attacks Questionnaire, self-reports of psychiatric symptoms and psychosocial variables, and clinician ratings.

***Results*:** Thirty (60%) of 50 patients reported anger attacks. Of those with anger attacks, 76.7% worried about them, and 73.3% had tried to prevent them. Compared with women without anger attacks, those with anger attacks were significantly more likely to report higher state and trait anger ($p < .001$), have a diagnosis of unipolar depression ($p < .01$), report more aggression directed at immediate family, and avoid their children. Both groups displayed little angry affect in the interview, thus appearing similar at assessment.

Conclusion: Anger attacks in response to children and spouse were common in this group of women and were associated with subjective distress. Because those with and without anger attacks appear similar at interview, inquiring about the presence of anger attacks is important to ensure that they become a focus of treatment.

(J Clin Psychiatry 1999;60:633–642)

Received May 29, 1998; accepted Dec. 9, 1998. From the Department of Psychiatry, Western Psychiatric Institute and Clinic, University of Pittsburgh, Pittsburgh, Pa.

This work was supported by National Institute of Mental Health grants MH53817 and MH30915.

Reprint requests to: Oommen K. Mammen, M.D., Western Psychiatric Institute and Clinic, 3811 O'Hara St., Pittsburgh, PA 15213.

Anger attacks are characterized by a rapid onset of intense anger and a crescendo of autonomic arousal that occur upon provocation described as trivial by the individual.[1] They are important because of their association with feeling out of control, overt aggressive behaviors, and interpersonal problems.[1,2] In a series of 56 depressed patients with anger attacks, Fava et al.[1] found that patients reported the following during anger attacks: feeling like verbally or physically attacking others (93% of cases), verbally or physically attacking others (63%), and throwing or destroying objects (30%). In 2 series of patients with primary diagnoses of either anxiety disorder or unipolar depression, 13% to 15% of patients reported serious impairment such as job loss, legal trouble, and loss of friends because of anger attacks.[2]

Anger attacks are typically ego dystonic; they are described as uncharacteristic of oneself, cause much subjective distress, and are followed by guilt and regret.[1] Distress is especially intense for mothers because anger is often directed at children, and mothers worry greatly about the effects of anger on their children.[3] In fact, high levels of parental anger can be detrimental to child emotional and behavioral development[4] and can contribute to child physical abuse.[5]

Anger is more commonly expressed toward those in the home compared with those outside the home.[6] Consistent with this observation, Weissman et al.[7] found that, in both depressed and nondepressed mothers, anger is provoked by and directed at individuals along a "continuum of intimacy": most commonly the children, followed by the spouse, and lastly those outside the immediate family (extended family, friends, work). These authors also found that because depressed mothers did not manifest angry affect in the clinical interview and did not explicitly discuss problems with anger, direct questioning is required to elicit information about problems with anger.[3] They therefore suggest that it is important to inquire about

anger directly to obtain an accurate assessment of the impact of psychiatric illness in mothers.

High levels of parental anger can adversely affect children because development, including development of the brain, is influenced by the behavioral transactions between children and their parents.[8,9] For example, studies have shown that children are affected by anger expressed directly at them and by witnessing high levels of anger expressed between parents.[4] Because pregnant and postpartum women either have young children or are soon to become mothers, they are a group for whom early recognition and intervention would be particularly important.

Pregnant and postpartum women may be particularly vulnerable to problems of anger for several reasons. Aversive events and frustration are known to precipitate anger and aggression.[10] Thus, fatigue and interrupted sleep, which are common in pregnancy and the postpartum period, may contribute to heightened anger. Additionally, the stress associated with caring for young children[11] and the marital discord that is frequently associated with the transition to parenthood[12] may predispose a woman to anger. The effects of reproductive hormones on central serotonergic function[13] may also contribute to postpartum vulnerability, because declining estrogen levels may contribute to a state of decreased serotonergic neurotransmission, which has been associated with increased anger and aggression.[14]

Research on mood and anxiety disorders in women has revealed that the postpartum period is associated with increased risk for the onset, recurrence, and relapse of these disorders[15,16] and that mood and anxiety disorders also occur during pregnancy.[17,18] Little attention, however, has been paid to problems of anger during these periods. Evidence suggests that anger may be an important problem for postpartum women. Snaith and Taylor[19] found that 74% of a sample of depressed postpartum women reported high levels of anger compared with 37% of depressed inpatients, and Pitt[20] observed that anger was common (rate unspecified) among depressed postpartum women. Little et al.[21] found that antenatal self-reports of anger were a better predictor of postnatal depressive symptoms than were self-reports of antenatal anxiety or depression. At initial assessments of a series of 55 pregnant and postpartum women presenting to a psychiatric clinic, 34 (61.8%) reported having anger attacks.[22]

We report a study examining anger attacks among consecutive consenting patients who presented for treatment to a psychiatric clinic that treats women who are either pregnant or up to 18 months postpartum. Subjects were recruited irrespective of psychiatric diagnosis because problems of anger control cut across psychiatric diagnoses.[23–25] Although anger attacks have been most strongly related to current and past unipolar depression, they also occur in association with anxiety disorders, eating disorders, personality disorders, and the absence of any psychiatric illness.[1,2,24,26–30] Problems of irritability, a recognized diagnostic criterion for mood and anxiety disorders, lie on a spectrum ranging from heightened anger to aggressive behavior. Anger attacks represent one facet of the spectrum of experiences and behaviors that constitutes irritability. We focused on anger attacks because they have recently been a focus of research attention.[1,2,22,31]

The aims of the study were to document the prevalence rate, correlates, and consequences of anger attacks. Based on the literature described above, we also tested the following hypotheses: (1) anger attacks will be reported by at least 50% of the subjects at initial assessment, (2) aggressive acts occurring in association with anger will be primarily directed at those in the immediate family compared with those outside the immediate family, and (3) angry affect will not be displayed in the interview.

METHOD

Subject Recruitment

Fifty consecutive consenting subjects presenting for treatment to a psychiatric clinic in a university medical center from April 1996 to February 1997 were assessed. The clinic treats women who are either pregnant or up to 18 months postpartum. The study was described as one examining emotions in pregnant and postpartum women. Patients were eligible to participate if they were at least 18 years old and either pregnant or postpartum with at least one child less than 18 months old, were presenting for treatment, and were not in active outpatient psychiatric treatment elsewhere. Thirteen (61.9%) of 21 eligible subjects participated before funding became available and 37 (90.2%) of 41 participated after payments of $25 started. Overall, 62 consecutive patients were approached, and 50 (80.6%) agreed to participate. Two subjects who met eligibility criteria were not approached. One was going to terminate her pregnancy very shortly after the assessment. The other was a postpartum woman who presented in extreme distress as her baby was dying in the neonatal intensive care unit. We felt it inappropriate and insensitive to approach her regarding study participation. A third patient met eligibility criteria, but stated her ambivalence about starting treatment. She was not enrolled in the study, and she did not enter treatment.

Subject Characteristics

Mean ± SD age of the sample was 30.2 ± 4.4 years. Of the 50 subjects, 35 (70%) were married, 45 (90%) were white, and 28 (56%) worked outside the home or were students. Mean number of years of education for the sample was 14.8 ± 2.6, and all but 2 had graduated high school or had a high school equivalency diploma. Mean number of years of education was 14.6 ± 2.7 for the 44 spouses/partners on whom these data were available. Eighteen subjects (36%) were pregnant and the remainder (64%) were postpartum with a youngest child less than 18 months old. The mean number of children for women in the sample was 1.6 ± 0.9, and the children had a mean age of 3.1 ± 4.1 years. The only 4 subjects without children were pregnant.

Psychiatric Diagnoses

Psychiatric diagnoses were made by 2 trained interviewers, a psychiatric social worker, and a nurse clinician, using the Structured Clinical Interview for DSM-IV Axis I Disorders, Patient Edition (SCID-I/P).[32]

Anger Attacks

Anger attacks were assessed by self-report using a modified Anger Attacks Questionnaire.[33] Anger attacks were defined as follows: having anger attacks recently, at least one anger attack in the last month, and at least one anger attack accompanied by 4 or more of the 13 autonomic and behavioral symptoms listed in the original questionnaire (Table 1 shows those autonomic and behavioral symptoms). Based on pilot work with a similar group of women,[22] the questionnaire was modified as follows. First, 3 symptoms of anger attacks in the original questionnaire were each expanded into 2 separate symptoms so that they could be rated individually by subjects (see Table 1 footnote for details). Second, the responses to questions on "guilt after anger attacks" and "whether anger attacks are characteristic of the self" were expanded to provide 3 possible responses rather than just "yes" or "no" (see Table 2 for possible responses). Third, rather than inquire about "irritability," "overreaction to minor annoyances," and anger attacks over the past 6 months, we inquired whether these symptoms were present "recently," because the pregnant and postpartum women seen in the clinic are often not ill for 6 months before presenting for treatment.

Other Measures of Anger and Aggression

Clinicians' rating of angry affect displayed in the interview was rated at the end of the assessment using the hostility subscale of the Psychiatric Symptom Assessment Scale (PSAS),[34] an updated version of the Brief Psychiatric Rating Scale.[35] This scale provides descriptors for its anchor points, which range from 0 to 6 (0 = absent, 5–6 = severe). Subjects also completed the State-Trait Anger Expression Inventory (STAXI),[36] a self-report measure with good psychometric properties and published normative data. The STAXI was used to assess state anger in the 2 weeks prior to assessment, trait anger, anger expression/out (tendency to express anger outward), anger expression/in (tendency to suppress or hold in angry feelings), anger control (tendency to control angry feelings), and total anger expression (overall expression of anger).

An Aggressive Acts Questionnaire was developed to assess self-reports of aggressive acts directed at the following individuals in the social network: spouse/partner, children older than 1 year, baby younger than 1 year, extended family, friends, and work. Aggressive acts were assessed separately for each of these groups in the social network. This questionnaire was developed because there is no brief questionnaire available to assess aggressive acts directed at different individuals in the social network. Subjects were asked to endorse which aggressive acts they engaged in while angry in the last month. The questionnaire inquires about the occurrence of specific aggressive acts without reference to the frequency. The following aggressive acts were assessed: threatened to leave, refused to talk or sulked, yelled at, stomped out or slammed the door, broke or threw objects (not at a person), threw objects at a person, threatened to physically hurt or hit, and tried to physically hurt or hit. Each item is scored as "0" for absent or "1" for present. Summary scores of aggression were derived by examining item correlations and internal reliabilities of items assessing aggression directed at each group (spouse/partner, children, extended family, work, friends).

Scores of the 8 items on the Aggressive Acts Questionnaire were summed to derive total aggression scores for aggression directed at spouse/partner (Cronbach $\alpha = .78$) and aggression directed at the children (either the baby or older children; Cronbach $\alpha = .83$). This summary score is a continuous variable (range, 0–8). Because aggressive acts directed at those outside the immediate family (nonfamily includes extended family, work, and friends) were too low to derive such a composite measure, total aggression directed at nonfamily was assessed as a categorical variable (present if any 1 of the 8 items was endorsed and absent if none of the 8 items was endorsed).

Physical aggression scores were derived by adding scores on the following items: stomping out or slamming door, breaking objects or throwing objects (not at a

person), threatening to physically hurt or hit, trying to physically hurt or hit. This summary score is a continuous variable (range, 0–4) for aggression directed at the spouse/partner (Cronbach $\alpha = .70$) and aggression directed at the children (baby or older children; Cronbach $\alpha = .9$). Physical aggression scores were not calculated for nonfamily because subjects reported almost no physical aggression directed at these individuals.

On the Aggressive Acts Questionnaire, subjects were also asked if they stayed away to avoid getting angry (avoidance). This single item was scored as either "0" for absent or "1" for present. It was separately assessed with regard to spouse/partner, children (baby or older children), extended family, work, and friends.

Other Self-Report Measures

The following were assessed by self-report: depressive symptoms on the Beck Depression Inventory (BDI),[37] anxiety symptoms on the Beck Anxiety Inventory (BAI),[38] summary scores for physical and emotional health status on the Medical Outcomes Study Short Form 36 Health Survey (SF-36),[39] aggressive acts by spouse/partner directed at the subject in the past year on the Conflict Tactics Scale,[40] satisfaction with services received at assessment on the Client Satisfaction Questionnaire,[41] perceived availability of social support (number of supportive individuals), and satisfaction with that support on the 6-item Social Support Questionnaire.[42]

Other Clinician Ratings

Global severity of illness and global ratings of function were assessed using the Clinical Global Impressions severity subscale (CGI-S)[43] and the Global Assessment of Function scale (GAF),[44] respectively. The severity of depressive symptoms was rated on the 17-item Hamilton Rating Scale for Depression (HAM-D)[45] and the 8-item Reversed Vegetative Symptom Scale.[46] The extent to which subjects' presentation was consistent with descriptions of individual DSM-III-R personality disorders was rated on the Personality Assessment Form.[47]

Because some subjects did not complete all the questionnaires, data were not available on each instrument for all of the subjects. Ratings on the Personality Assessment Form, the HAM-D, and Reversed Vegetative Symptom Scale were made on only a little more than the latter half of subjects because these assessments were only included once resources became available to conduct them. To enhance the likelihood of frank responses, the Client Satisfaction Questionnaire was administered separately, and subjects were told that this was to ensure that their responses would not be seen by the evaluating clinician. The different procedure used may have contributed to the low number of satisfaction questionnaires completed (N = 25). Those with and without anger attacks were equally likely to have completed the Client Satisfaction Questionnaire ($\chi^2 = .0$, $p = 1.0$). Primary Axis I disorder data from the SCID-I/P were available for all 50 subjects, but comorbidity data were available for only 47 subjects, because the anxiety disorders module was not completed for 3 subjects. The SCID-I/P was completed at initial assessment except for 1 subject who had the interview done 12 weeks after initial assessment. For this latter subject, the SCID-I/P diagnosis was consistent with the clinical diagnosis made at assessment.

Data Analysis

Standard descriptive statistics were used. Comparisons between those with and without anger attacks were made using Mann-Whitney U tests for nonparametric continuous data, t tests for parametric continuous data, and chi-square tests (with Yates continuity correction) for categorical data. The Fisher exact test was used for categorical data when any 1 of the expected cell sizes was less than 5. The McNemar test was used when proportions were compared in a single sample (for example, when comparing rates of aggression directed at family vs. nonfamily among those with anger attacks). All p values reported are 2-tailed.

RESULTS

Thirty (60%) of the 50 subjects reported having anger attacks on the Anger Attacks Questionnaire using the criteria described above. These 30 subjects were also the only subjects who responded in the affirmative to the single question, "Recently, have you had "anger attacks" (that is, episodes in which you became angry and enraged with other people in a way you thought was excessive or inappropriate to the situation)?"

Characteristics of Anger Attacks

Eighteen (60%) of the 30 subjects with anger attacks reported 9 or more anger attacks in the last month. Subjects reported the following number of anger attacks in the last month: 1–4 (N = 10; 33.3%), 5–8 (N = 2; 6.7%), 9–12 (N = 7; 23.3%), 13–16 (N = 4; 13.3%), 17–20 (N = 3; 10%), 21–25 (N = 0), 26–30 (N = 3; 10%), and more than 30 (N = 1; 3.3%). Table 1 shows the symptoms associated with anger attacks. Of note, anger attacks were associated with verbally attacking others in 28 subjects

Table 1. Symptoms Associated With Anger Attacks

Symptom	Subjects With Anger Attacks (N = 30) N	%
Tachycardia	23	76.7
Hot flashes	21	70.0
Chest tightness or pressure	11	36.7
Limb numbness or tingling	6	20.0
Light-headedness or dizziness	13	43.3
Shortness of breath	15	50.0
Sweating	12	40.0
Shaking or trembling	18	60.0
Fear, panic, or anxiety	17	56.7
Feeling out of control[a]	28	93.3
Feeling like about to explode[a]	27	90.0
Feeling like yelling[b]	30	100
Feeling like physically attacking[b]	24	80.0
Verbally attacking others[c]	28	93.3
Physically attacking others[c]	10	33.3
Throwing or destroying objects	14	46.7

[a,b,c]These pairs of items were single items in the original questionnaire. When scoring for anger attacks, items in each pair were treated as a single item to ensure that a positive response to both items was counted as only one symptom.

Table 2. Characteristics of Anger Attacks as Reported on Anger Attacks Questionnaire

Characteristic of Anger Attacks	Subjects With Anger Attacks (N = 30) N	%
Anger attacks typical of self		
No	20	66.7
Somewhat	9	30.0
Yes	1	3.3
Guilt or regret after attacks		
Yes	26	86.7
Yes, not always	3	10.0
No	1	3.3
Worry about anger attacks		
Very much	15	50.0
Much	8	26.7
Somewhat	4	13.3
Not at all	3	10.0
Try and prevent anger attacks	22	73.3
Anger attacks in last month directed at		
Family[a]	28	93.3
Nonfamily[a]	15	50.0
Spouse/partner (N = 29)	25	86.2
Baby or older children (N = 27)	19	70.3
Extended family	13	43.3
Friends	4	13.3
Work (N = 19)	2	10.5

[a]Anger attacks were more likely to be directed at family (either spouse/partner, baby or older children) compared to nonfamily (either extended family, friends, or work): 28/30 vs. 15/30, McNemar test p = .002.

with anger attacks (93.3%), feeling like physically attacking others in 24 (80.0%), physically attacking others in 10 (33.3%), and throwing or destroying objects in 14 (46.7%). Table 2 shows that anger attacks were typically described as uncharacteristic of the self, were followed by guilt and regret, and were associated with worry over having anger attacks and attempts to prevent them. Table 2 also shows that anger attacks in the month prior to assessment were significantly more likely to be provoked by immediate family than by someone from outside the immediate family (28/30 vs. 15/30; McNemar test p = .002).

Correlates of Anger Attacks

Relationship to psychiatric diagnosis. Primary Axis I diagnoses for the 50 subjects at assessment were 32 (64%) major depression, 1 (2%) dysthymic disorder, 3 (6%) depressive disorder not otherwise specified, 2 (4%) bipolar disorder type I depressed, 1 (2%) bipolar disorder type I mixed, 1 (2%) bipolar disorder type II depressed, 5 (10%) panic disorder, 4 (8%) anxiety disorder not otherwise specified, and 1 (2%) adjustment disorder. Thirty-six subjects (72%) had a primary diagnosis of a unipolar depressive disorder, and 9 (18%) had a primary anxiety disorder.

Data on comorbidity of current Axis I disorders were available for 47 subjects. Twenty-two (46.8%) of these 47 subjects had more than one current Axis I disorder. Forty-three (91.5%) of the 47 subjects had a current unipolar depressive disorder or anxiety disorder or both. In this latter group of 43 subjects, 17 (39.5%) had only a unipolar depressive disorder, 9 (20.9%) had only anxiety disorder, and 17 (39.5%) had both disorders.

Compared with subjects without anger attacks, those with anger attacks were more likely to have a primary diagnosis of unipolar depression (90.0% vs. 45.0%, $\chi^2 = 9.9$, p = .002). There were no significant differences when those with and without anger attacks were compared on the mean number of current Axis I diagnoses (1.82 ± 1.1 vs. 1.6 ± 0.84; $t = 0.82$, $df = 45$, p = .42) and presence of comorbidity (50.0% vs. 42.1%, $\chi^2 = .05$, p = .82). When compared on the comorbidity of unipolar depression and anxiety disorders, those with anger attacks were more likely to have a unipolar depressive disorder only ($\chi^2 = 4.4$, p = .04), whereas those with and without anger attacks were equally likely to have a current anxiety disorder only and current unipolar depression and anxiety disorder.

Relationship to aggressive acts. In the whole sample of 50 subjects, aggressive acts were more likely to be directed at family compared with nonfamily (45/50 vs. 23/50; McNemar test p < .001).

On the Aggressive Acts Questionnaire, those with anger attacks reported more aggressive acts compared with those without anger attacks on total aggression directed at spouse/partner (mean rank = 30.02 vs. 17.73; Mann-Whitney U test p = .003) and children (mean rank = 29.20 vs. 14.64; Mann-Whitney U test p = .000), and physical aggression directed at spouse/partner (mean rank = 29.55 vs. 18.40; Mann-Whitney U test p = .003) and children (mean rank = 27.04 vs. 18.0; Mann-Whitney U test p = .003). There were no significant differences between the 2 groups on total aggression directed at extended family, work, and friends. Reports to child protective services were not indicated in these cases. Two subjects (both with anger attacks) already had open cases with child protective services, one for "parenting difficulties" and the other for child neglect and substance abuse (which was no longer active when she presented to the clinic).

On the Aggressive Acts Questionnaire, those with anger attacks were more likely to report avoidance (staying away to avoid getting angry) with their children compared with those without anger attacks ($\chi^2 = 8.97$, df = 1, p = .003). There were no significant differences between the 2 groups on avoidance in response to spouse/partner, extended family, work, and friends.

Relationship to other measures of anger. As hypothesized, subjects with anger attacks displayed little angry affect in the interview. Only 1 (5%) of 20 subjects without anger attacks and 5 (18.5%) of the 27 subjects with anger attacks displayed any angry affect in the interview, as rated on the hostility item of the PSAS (Fisher exact test p = .22). The 6 subjects who showed any anger received a score of 1 on a scale from zero to 6 (0 = absent, 5–6 = severe). Scores of 1–2 describe "snappish or grumpy manner or talk, mild irritability, or sour expression."

Compared with those without anger attacks, those with anger attacks reported significantly higher state anger in the prior 2 weeks, trait anger, anger expression/out, and total anger expression, and significantly lower anger control on the STAXI (Table 3).

Relationship to demographic characteristics. Those with and without anger attacks did not differ on the following demographic variables: mean age, marital status, ethnicity, mean number of years of education, working outside the home or being a student, mean number of children, and being pregnant.

Relationship to other clinician ratings. Mean scores did not differ between the 2 groups on the following instruments: 17-item HAM-D, CGI-S, and GAF. Those with anger attacks compared with those without anger attacks had a significantly higher mean score on the 8-item Reversed Vegetative Symptom Scale (2.8 ± 2.4 vs. 0.6 ± 0.2; t = 2.75, df = 26, p = .02). Subjects in the 2 groups also received similar mean total scores on the Personality Assessment Form (13.7 ± 1.1 vs. 13.3 ± 0.9). A total score of less than 20 on the Personality Assessment Form suggests the absence of a personality disorder.[49]

Table 3. Relationship Between Anger Attacks and Subscales of the State-Trait Anger Expression Inventory (STAXI)[a]

	Anger Attacks		Statistic		
Subscale of STAXI	Present	Absent	t	(df)	p
State anger					
Mean (SD)	28.3 (6.2)	15.3 (6.2)	7.06	46	.000
Percentile score	98	81			
Trait anger					
Mean (SD)	24.0 (7.4)	16.1 (4.6)	4.20	47	.000
Percentile score	85	33			
Anger expression/out					
Mean (SD)	18.8 (4.8)	15.4 (2.6)	2.80	47	.007
Percentile score	88	62			
Anger expression/in					
Mean (SD)	18.7 (4.2)	16.6 (4.1)	1.76	47	.085
Percentile score	83	71			
Anger control					
Mean (SD)	18.0 (5.1)	23.7 (5.0)	–3.78	47	.000
Percentile score	22	65			
Total anger expression					
Mean (SD)	35.5 (9.6)	24.3 (9.6)	3.98	47	.000
Percentile score	94	60			

[a]Percentile scores in the table are for the mean raw scores and were derived from the tables of normative data for adult females.[48(p31)]

Relationship to other self-report measures. Those with and without anger attacks did not differ significantly on the following self-report measures: BDI, BAI, Client Satisfaction Questionnaire, perceived availability of social support on the Social Support Questionnaire, and the SF-36 (physical health on the physical component summary score and emotional health on the mental component summary score). Those with anger attacks reported on the Conflict Tactics Scale that they were significantly more likely to be subjected to verbal aggression (13.2 ± 8.8 vs. 7.7 ± 6.3; t = 2.28, df = 42, p = .03), but not physical aggression, by their partners, and they also reported significantly lower satisfaction with their social support (1.7 ± 0.5 vs. 1.4 ± 0.4; t = 2.22, df = 40, p = .03).

Relationship to psychotropic medication use at assessment. Compared with those with anger attacks, those without anger attacks were more likely to be taking psychotropic medication at initial assessment (10% vs. 45%, Fisher exact test p = .007). Of the 12 subjects taking medication at assessment, 5 were taking antianxiety medications (benzodiazepines, alprazolam), 4 were taking fluoxetine, 1 was taking nortriptyline, 1 was taking nefazodone and buspirone, and 1 was taking fluoxetine with

clonazepam and nortriptyline. There were no significant differences between those taking and not taking medication on self-reports of depressive symptoms on the BDI, self-reports of functional status on the SF-36 health survey mental and physical component summary scores, clinician rating of severity of illness on the CGI-S, and clinician rating of functioning on the GAF. In contrast to these similarities, those using medication at initial assessment reported significantly higher levels of anxiety on the BAI (31.4 ± 11.8 vs. 22.3 ± 11.1; $t = 2.27$, $df = 45$, $p = .03$). This difference may be related to the fact that 10 of the 12 subjects using medication at assessment had an anxiety disorder and, for 5 of them, the primary Axis I disorder was an anxiety disorder. Additionally, logistic regression was used to examine the relationship between anger attacks (dependent variable) and a primary Axis I diagnosis of current unipolar depressive disorder and antidepressant use (the latter 2 independent variables entered simultaneously). Both current depression status ($R = 0.39$, $p < .001$) and antidepressant use ($R = –0.23$, $p < .05$) significantly predicted anger attacks.

DISCUSSION

Thirty (60%) of 50 women presenting for treatment to a specialty clinic for pregnant and postpartum women with psychiatric disorders endorsed having anger attacks at initial assessment. Compared with those without anger attacks, those with anger attacks were more likely to report aggressive acts. As hypothesized based on the work of Weissman et al.,[7] aggressive acts were more commonly directed at immediate family instead of those outside the immediate family, and anger was not evident during the initial assessment. The association between anger attacks and aggressive acts is probably not related to the inclusion of aggressive acts among the symptoms used to define anger attacks, because the 30 subjects with anger attacks were also the only subjects who responded in the affirmative to the single question, "Recently have you had anger attacks?"

Most of the women reported that the anger was not typical of themselves and that the anger attacks were followed by guilt and regret. More than half of those with anger attacks reported being worried by the anger attacks, and most had tried to prevent them. The occurrence of aggressive behaviors, the avoidance of children to prevent having anger attacks, and worry about having anger attacks suggest that anger attacks were an important problem for these patients. In spite of this, the women did not appear angry in the interview, and, unless they were specifically asked, there were no indications that anger was a problem. These findings support the suggestion by Weissman and colleagues that "direct questioning can lift the burden of secrecy from the patient and establish the treatment relationship on firm ground."[7(p145)]

The findings of this study suggest that ego-dystonic anger attacks may be an underrecognized symptom among pregnant and postpartum women presenting to psychiatric clinics. Anger attacks may be underrecognized because angry affect is not evident in the clinical assessment and because women are socialized to deny feelings of anger.[50] Weissman et al.[7] have previously noted that in the clinical interview, depressed mothers typically only allude to their problems with anger and that this can result in the interviewer's not recognizing the magnitude of the problem.

Consistent with the findings of Gould et al.,[2] in this study, anger attacks were more strongly linked to unipolar depression rather than anxiety disorder. In prior studies comparing patients with and without anger attacks, anger attacks have been associated with higher levels of self-reported state and trait anger,[1,28] the presence of personality disorder,[1] higher scores on ratings of depressive symptoms in some studies[2,27,28] but not others,[1] and higher scores on ratings of anxiety symptoms in some studies[1,28] but not others.[2] In this study, the association between anger attacks and higher levels of state and trait anger was replicated, but there was no association with depressive symptoms, anxiety symptoms, and personality disorder. These differences may be because the findings of prior studies are not generalizable to this sample or because of the limitations of this report.

An important limitation of this study is the absence of a control group of mothers without psychiatric disorders. We are aware of only one study that had such a control group, and it found depressed mothers were more likely to express anger toward their children.[7] It is important, however, to note that just as anger is a common emotion, but typically not associated with aggressive acts,[6] anger is common in mothers of young children, but most mothers do not hurt their children.[51]

Other limitations of this report are the cross-sectional design, absence of data on the reliability of clinician ratings, the exclusive use of self-report to assess anger attacks and aggressive acts, and the use of the Aggressive Acts Questionnaire, which has not been validated. Also, because only the incidence and not frequency of aggressive acts was assessed, the study may have underestimated the magnitude of the differences when aggressive acts were compared between those with and without an-

ger attacks. Another limitation was not assessing for marital discord, which can contribute to postpartum depression.[52] Marital discord could also potentially contribute to the study findings of a relationship between anger attacks and verbal aggression directed at the subject by the spouse/partner and the high rates of self-reported aggression directed at the spouse/partner.

The absence of an association with personality disorder in this sample may in part be because the Personality Assessment Form was scored based on a single interview primarily focused on making an Axis I diagnosis, conditions under which this instrument may not perform optimally.[47] It is noteworthy, however, that persons without personality disorder may have serious problems with anger attacks.[26] In future studies, it would be useful to have a more detailed assessment for personality disorder.

It would also be useful to understand the relationship between anger attacks and medication use, given that subjects in this study without anger attacks were more likely to be taking medication at initial assessment compared with those with anger attacks. Those taking and not taking medication at initial assessment had similar severity of illness, functional status, and depressive symptoms, whereas those taking medication reported higher levels of anxiety. Both depression status and antidepressant use significantly predicted anger attacks when the contribution of the other was controlled. Because of the cross-sectional nature of this research, it is not possible to know the causal links that explain these relationships. If this finding is replicated in future studies, it would be useful to examine whether the antidepressants are treating the anger attacks and not the depression or whether some other factor is responsible for those without anger attacks taking antidepressants.

Fava and colleagues,[33] using the original Anger Attacks Questionnaire, defined anger attacks by the following criteria: endorsement of irritability, overreaction to minor annoyances, anger attacks in the prior 6 months, at least one anger attack in the prior month, and at least one anger attack associated with 4 or more of the accompanying symptoms (listed in question 5 of the questionnaire). Using the modified questionnaire, anger attacks were defined as present when the subject endorsed having had anger attacks recently, at least one anger attack in the past month, and at least one anger attack associated with 4 or more symptoms from the list of accompanying symptoms in question 5 of the original questionnaire. The definition of anger attacks used in this study captured a group of patients who, compared with those without anger attacks, had higher levels of state and trait anger and reported more aggressive acts. Also, as noted earlier, the association between anger attacks and aggressive acts in this study did not appear to be related to the criteria for anger attacks since the 30 subjects with anger attacks according to our definition were also the only subjects who responded in the affirmative to the single question: "Recently have you had anger attacks?" In this regard, Morand et al.[31] have questioned the boundaries of anger attacks and suggested that the criteria proposed by Fava and colleagues[33] may "underestimate the true prevalence of anger attacks."[31(p44)] This suggests that it may be useful to develop empirically derived criteria to define anger attacks.

Notwithstanding its limitations, this report points to the clinical importance of identifying and treating anger attacks. The association between anger and aversive events[10] suggests the need to be cautious before attributing patients' angry responses to psychopathology. Thus, it is clinically important to recognize that inadequate instrumental help in caring for the children and marital discord may contribute to the patient's anger. Considering the possibility of psychiatric disorders and anger attacks in spouses and partners may also be important, because at least 10% of partners of women with postpartum psychiatric illness have been reported to have psychiatric morbidity.[53] On the other hand, it is probably wise to ensure that the search for such environmental contributors does not deprive patients of potentially helpful pharmacologic[24] and psychotherapeutic[54] treatment targeting anger.

Making anger attacks a focus of treatment is important because anger attacks do not always respond to treatment focused on the primary Axis I disorder. For instance, though reports by Fava and colleagues[1,29] show that anger attacks tend to respond to treatment with serotonergic antidepressants, these same data also show that anger attacks persist in about 30% to 50% of cases when antidepressants are used to treat depression. Other reports also suggest that anger attacks may persist after recovery from the primary Axis I disorder.[27,30] Additionally, Weinberg and Tronick[55] have shown that compared with healthy control mothers with no prior psychiatric illness, asymptomatic postpartum women who have been treated for mood and anxiety disorders show more anger directed at their infants in structured interactional assessments. This suggests that problems of anger may persist after recovery from mood and anxiety disorders, with the potential to have deleterious effects on the mother-infant relationship. Similarly, Kolko[56] found that 31% of parents in cognitive-behavioral treatment for child physical abuse reported high anger late in the course of the 12-week treatment, again suggesting persistence of problems.

To ensure that anger attacks are a focus of treatment, it is important to establish their presence at initial assessment. The findings of this study suggest that with pregnant and postpartum women, clinicians will need to directly question patients to determine if anger attacks are present, because angry affect is typically not evident in the interview and the few differences between those with and without anger attacks are unlikely to cause the clinician to suspect the presence of anger attacks.

Drug names: alprazolam (Xanax and others), buspirone (BuSpar), clonazepam (Klonopin and others), fluoxetine (Prozac), nefazodone (Serzone), nortriptyline (Pamelor and others).

Disclosure of off-label usage: The authors of this article have determined that, to the best of their knowledge, no investigational information about pharmaceutical agents has been presented herein that is outside Food and Drug Administration–approved labeling.

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