Anger: Consequences and Treatment

Martin P Paulus
Professor, Dept. Psychiatry
University of California San Diego
Associate Chief of Psychiatry
San Diego Veterans Affairs Health Care System

Outline
1. What is anger and what are its consequences?
2. How to treat anger with medications?
3. Our Anger Management Program

What is Anger?
- Emotional state:
  - irritation to rage
- Multi-dimensional construct:
  - physiology - fight or flight
  - cognitive - automatic, inflammatory, irrational thinking
  - phenomenological - subjective awareness
  - behavioral - facial, verbal expression
Anger is about relationships

Differentiate Anger from:
- Hostility
  - Attitude - dislike and negative evaluation of others
  - Cognitive - cynicism, mistrust
- Aggression
  - Physical acts of violence
  - Only associated with 10% of anger episodes.

Current Conceptualizations:
- ABC structure of trait anger:
  - “Angry Affect”
  - “Behavioral Aggression”, and
  - “Cynical Cognition” (Martin et al 2000)
- AHA structure of anger
  - Anger
  - Hostility
  - Aggression (Spielberger et al 1995)
How to measure anger?

- Self-report measures:
  - Buss Durkee Hostility Inventory (1957)
  - Cook-Medley Hostility Inventory (1954)
  - Novaco Provocation Inventory (1977)
  - Novaco Anger Scale (1994)
  - State Trait Anger Expression Inventory (STAXI, Spielberger 1988)

What question to ask?

- “Have you been irritable or had outbursts of anger?”
- Severity:
  - 0: not at all distressing, 1: minimally distressing,
    2: moderately distressing, 3: markedly distressing,
    4: extremely distressing
- Frequency:
  - 0: not at all, 1: once only, 2: 2–3 times, 3: 4–6 times, 4: every day

Prevalence:

- Precise prevalence is unknown.
- High hostility: 15% of individuals (Romanov et al 1994).
- Anger episodes:
  - several times per week (Kassinove et al 1997)
  - with people who are described as well-liked or loved (Averill 1983)
  - evaluated positively in more than half of the time (Tafrate et al 2002)
Factors affecting prevalence:
- Higher levels of trait anger in
  - Young (versus old)
  - African American (versus other)
  - Males (versus females)
  - Less educated (versus higher education)
- But anger episodes do not vary with
  - age (Bleiker et al 1993).

Other factors:
- Gender specific expression of anger:
  - Men: Physical and verbal antagonism
  - Women: cynicism and passive consent (Biaggio 1989)
- Aggregates in families (Matthews et al 1992)
- Directly related to aggressive parenting in the offspring generation (Conger et al 2003).
- Increased anger associated with
  - negative life events
  - lack of social support (Scherwitz et al 1991)

Anger Example - Road Rage:
- Most frequent report of an anger situation:
  - About 50% report having been the target of road rage in the past year (Smart et al 2003).
- Angry/threatening driving style was associated with:
  - Increased frequency of DUI
  - Increased receipt of traffic tickets
  - Exceeding the speed limit (Wells-Parker et al 2002).
  - In driving simulations: twice as likely to crash in high stress situations (Deffenbacher et al 2003).
Health Consequences

Coronary artery disease and myocardial infarction:
- 3.5 times higher risk of premature coronary heart disease
- 6.4 times higher risk of premature myocardial infarction
- 1 hour after anger episode: 9.0 times higher relative risk for MI

Hypertension:
- Increased blood pressure reactivity (Jorgensen and Houston 1988).

Health Consequences

Stroke:
- Individuals (< 60 years): 3-fold higher risk for hemorrhagic and ischemic strokes (Williams et al 2002).
- Men (>60) twice the risk of stroke even after adjustments for age, resting blood pressure, smoking, alcohol consumption, body mass index, low-density and high-density lipoprotein cholesterol, fibrinogen, socioeconomic status, history of diabetes, and use of antihypertensive medications.
- 6-fold increased risk of stroke after risk factor adjustment (Everson et al 1999)

Headache:
- Strongest predictor of headaches (Nicholson et al 2003)

Health Consequences

Metabolic processes:
- Higher triglyceride reactivity (Finney et al 2002).
- Higher total serum cholesterol, less low density lipoproteins, and increased glucose levels (Siegman et al 2002)
- Lower high-density lipoprotein (Niaura et al 2002).
- Women:
  - greater body mass index
  - higher levels of serum triglycerides
  - fewer high density lipoprotein cholesterol (Chaput et al 2002)
Health Consequences

- Pain:
  - Anger suppression: strongest predictor of reports of pain intensity and pain behavior
  - Anger intensity: predictor of perceived pain, interference and activity level (Kerns et al 1994).
  - Poor anger management style: exacerbation of chronic low back pain (Burns 1997)

Treatment Approaches

- Psychological treatments:
  - Systematic Desensitization (O'Donnell and Worell 1973; Rimm et al 1971) but its efficacy has been questioned (Abramowitz and Wieselberg 1978)
  - Cognitive behavioral strategies (Hazaleus and Deffenbacher 1986; Meichenbaum and Turk 1975).
  - Relaxation techniques (Novaco 1976; Peveler and Johnston 1986).
  - Emotionally focused therapy (Paivio 1999)
  - Meditation (Leifer 1999).

Somatic Treatments

- SSRI:
  - Reduction of anger attacks by fluoxetine (Fava et al 1996).
- Nefazodone:
  - reducing anger attacks in depression has been related to serotonin modulation (Mischoulon et al 2002)
- Nicotine patch: reduce anger in diary reports in high-hostile participants (Jannier et al 1999).
Anger & DSM IV Axis I

- PTSD
  - 8% prevalence
  - Irritability is a key symptom
- PMDD
  - 5% of all women
  - Cardinal symptom: Anger and irritability
- PMDD
  - 5% of all women
  - Cardinal symptom: Anger and irritability
- MDD
  - 40% with anger attacks (Fava et al. 1996)
- Bipolar Disorder
  - 62% with anger attacks (Perlis et al. 2004)

A closer look at SSRIs

- SSRIs
  - Improve negative self-perception
  - Increased active social behavior in depressed patients (Dubini et al. 1997)
- SSRIs in general (Eriksson 1999; Steiner and Born 2000) and Sertraline (Yonkers et al. 1997)
  - reduce anger and irritability in PMDD.
- SSRI are effective for PTSD with Sertraline being US FDA-approved (Asnis et al. 2004).

What do SSRIs do?

- Improve detection of happiness in facial expressions in healthy female volunteers (Harmer et al. 2003)
- Reduced the identification of anger in male and female volunteers (Harmer et al. 2004).
- Attenuate electrophysiological activation to unpleasant valence (Kemp et al. 2004).
- Reduce threat related bias of information processing (Mogg et al. 2004)
Sertraline Efficacy in PTSD

Quality of Life in PTSD: Sertraline vs Placebo

Sertraline: Improvement in anger predicts response

- Sertraline reduces anger
- Less anger predicts greater treatment response in PTSD (Davidson, 2004)
Comprehensive Treatment Approach

- Educate
- Recognize
- Measure
- Tools
- Practice

Key Elements:
- Education: how does anger hurt me?
- Understanding: how does anger come about?
- Stress management: relaxation / coping
- Thinking Style: from reflexive to complex thinking
- De-escalation: time-out / rechanneling
- Communication: assertiveness
- Happiness: empathy and suffering

Anger Journal

<table>
<thead>
<tr>
<th>Stress</th>
<th>Situation</th>
<th>What does this remind you of?</th>
<th>Thoughts</th>
<th>Emotional Arousal</th>
<th>Aggressive Behavior</th>
<th>Management Techniques</th>
</tr>
</thead>
</table>
Mechanics of Anger

1. Anger is an “umbrella” emotion.
2. Anger is a response to different types of unpleasant or painful information from the outside or inside world.

Mechanics of Anger (2)

1. Anger is an emotion that is often the result of different feelings or experiences.

Mechanics of Anger (3)

1. Stress + Trigger thoughts = Anger
Relaxation / Stress Management

- The sensory-motor system:
  - outside world.
- The autonomic nervous system (ANS)
  - internal environment.

Relaxation / Stress Management (2)

<table>
<thead>
<tr>
<th>Fight or Flight</th>
<th>Relax or Digest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Racing heart</td>
<td>Slow heart rate</td>
<td></td>
</tr>
<tr>
<td>Shallow breathing</td>
<td>Deep breathing</td>
<td></td>
</tr>
<tr>
<td>Tense muscles</td>
<td>Relaxed muscles</td>
<td></td>
</tr>
<tr>
<td>Dry mouth</td>
<td>Moist mouth</td>
<td></td>
</tr>
<tr>
<td>Cold hands</td>
<td>Warm hands</td>
<td></td>
</tr>
</tbody>
</table>

Relaxation / Stress Management (3)

- Find a quiet place
- Find a comfortable chair
- Stretch
- Close your eyes
- Focus on your hands on your thighs
- Say to yourself “My hands are heavy, they are very heavy”
- Monitor your hands
- Go through the following body parts: forearms, upper arms, shoulders, feet, lower legs, thighs.
- To end, say to yourself: “I am going to finish my exercise now”
- Open and close your fingers.
- Stretch
- Rub and open your eyes
Trigger Thoughts

- Feeling (emotion) arises from the meaning we give to an event.
- We can attach an incorrect or exaggerated meaning to an event.

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am in danger</td>
<td>Anxiety</td>
</tr>
<tr>
<td>I am wronged</td>
<td>Anger</td>
</tr>
<tr>
<td>I am alone</td>
<td>Sad</td>
</tr>
<tr>
<td>I am loved</td>
<td>Joy</td>
</tr>
</tbody>
</table>

Trigger Thoughts (2)

- Egocentric perspective
  - tendency to over interpret situations in terms of our own frame of reference.
  - “the world according to ME”
- Psychological threats
  - No longer bears and tigers; perceived threats now are, for the most part, psychological rather than physical.

Trigger Thoughts (3)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Reflex Thinking (Automatic)</th>
<th>Complex Thinking (Intentional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiation</td>
<td>All or nothing (black and white)</td>
<td>Graded (gray)</td>
</tr>
<tr>
<td>Number of possibilities</td>
<td>Few</td>
<td>Many</td>
</tr>
<tr>
<td>Verification</td>
<td>Right or wrong (black and white)</td>
<td>Degrees of correct or incorrectness (gray)</td>
</tr>
<tr>
<td>Thought speed</td>
<td>Fast</td>
<td>Slow</td>
</tr>
<tr>
<td>Information processing</td>
<td>Information processing</td>
<td>Information seeking</td>
</tr>
<tr>
<td>Thought process</td>
<td>Confirming pre-existing</td>
<td>Examining alternative</td>
</tr>
<tr>
<td></td>
<td>hypothesis</td>
<td>hypothesis</td>
</tr>
<tr>
<td>Cause/effect model</td>
<td>One cause / one effect</td>
<td>Many causes / Many effects</td>
</tr>
<tr>
<td>Self-relatedness</td>
<td>Self versus other</td>
<td>Self among others</td>
</tr>
<tr>
<td>Emotion-related</td>
<td>Closely related to emotions</td>
<td>Emotions related to emotions</td>
</tr>
<tr>
<td>Effort</td>
<td>Effortful</td>
<td>Effortful</td>
</tr>
<tr>
<td>Focus on</td>
<td>Habitual patterns</td>
<td>New alternatives</td>
</tr>
<tr>
<td>Useful when</td>
<td>Seemingly effortless</td>
<td>Strategic action</td>
</tr>
<tr>
<td>Perception</td>
<td>Intrusive</td>
<td>Required</td>
</tr>
<tr>
<td>Similar to</td>
<td>Fight or Flight mode</td>
<td>Self-generated</td>
</tr>
<tr>
<td>Related/Digest Mode</td>
<td></td>
<td>Related/Digest Mode</td>
</tr>
</tbody>
</table>

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Happiness
- Happiness can be achieved through training the mind.
- A disciplined training of how we think and feel.
- Understanding happiness also means to understand
  - Compassion
  - Suffering

Steps to increase happiness
- Identify thoughts and feelings (T&F)
  - associated with happiness
  - associated with suffering.
- Monitor T&F whether they lead to
  - happiness or
  - suffering.
- Whenever T&F lead to suffering:
  - train your mind to decrease these (T&F)
  - understanding and awareness.
- Cultivate the (T&F) which lead to happiness.

Communication
- One of the key components in the development of anger is the breakdown of communication.
- Communication Styles
  - Passive
  - Aggressive
  - Assertive
Assertive Communication

Training schema:

<table>
<thead>
<tr>
<th>Element</th>
<th>Statement</th>
<th>Specific to the Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>State the problem</td>
<td>I feel</td>
<td></td>
</tr>
<tr>
<td>Express your feeling</td>
<td>I would prefer</td>
<td>that</td>
</tr>
<tr>
<td>Express your need</td>
<td>I want</td>
<td>your help</td>
</tr>
</tbody>
</table>

Anger Spiral

Anger often develops as a spiral, that is, small events trigger other events, which lead to an increased state of irritability and anger.

Anger Spiral (2)

Observations/Behaviors: Sensations

Voice
- Giving advice, global labeling, criticism, blaming, threatening, complaining, etc.
- Whining, sighing
- Shouting, laughing
-ortic, ruminating, sneezing

Face
- Looking away, rolling eyes, frowning
- Holding a finger, shaking a fist

Gesture
- Looking away, rolling eyes, frowning

Body Movements/Posture
- Licking lips, biting nails
- Slapping one’s chest
De-escalation: Time-outs
- Use a simple gesture
- Set a definite period aside
- Do something physically challenging
- Check in when you return
- Practice time outs when you are not angry
- Don’t use time outs as a punishment

Summary (3)
How well does it work?

Summary (3)
How well does it work?

Thank you and
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- If you have more questions, please email me: mpaulus@ucsd.edu