
- 44% of Americans report increased psychological stress
- Stress management counseling is the least common falling behind nutrition, exercise, weight loss and smoking
- 2006-9 National Ambulatory Medical Care Survey: 34,000 office visits, 1263 physicians
  - Counseling and information about stress care included exercise, yoga, biofeedback, etc., referrals for stress coping (usually limited to depression care)

Factors associated with provision of stress management counseling (increased odds ratio):
- Northeast
- Younger age groups (<65 years of age)
- Acuity and complexity of disease, multiple problems (>3, highest 5+)
- Depression
- Length of visit >20 minutes (no increase above 40 minutes)

WebMD: Stress Relief Strategies to Ease Allergy Symptoms (Dr. Marshall quoted)
- Issues raised:
  - Immune system and resistance to infection?
  - Increased cortisol as mediator of immune suppression?
  - Vaccine responses impacted by levels of stress?
- Managing Stress Components
  - Accounting for medication side effects (i.e., insomnia with LABAs)
  - Allergy symptom treatment to reduce stress of illness
  - Manage life style stressors, time to rest
  - Sleep and exercise as stress relievers
  - Meditation
  - Depression as cause of less medication compliance
  - Nutrition to human support system
  - Mind-body techniques – from positive thinking to “say ohm”

Stress and Asthma: Cleveland Clinic Foundation Education Online 2009
- http://my.clevelandclinic.org/disorders/asthma/hic_stress_and_asthma.aspx

Stress Responses in the Brain: Differences by Sex!
Studies using aversive affective stimuli identified
- Central amygdala nuclei (cAMYG),
- Ventromedial (VMN) and paraventricular (PVN) hypothalamic nuclei
- Hippocampus (HIPP), orbitofrontal cortex (OFC), anterior cingulate gyrus (aCING), and Brainstem, including
  - Peripeduncular nucleus (PPN) and locus ceruleus
Neural System within the HPA axis that regulate responses
- “Brain regions form a subcortical–cortical neural system within the HPA axis that regulates arousal, neuroendocrine, and affective responses.” (Fuchs et al., 1985; Swaab, 2004).
- Estrogen may attenuate arousal in women via cortical–subcortical control within HPA circuitry.

Evidence Based Information Supporting Stress Management Recommendations?

- 368 asthma patients, 127 responses (74% female)
  - Physical concerns factor (AS-Physical Concerns) increased in less well controlled asthma and poorer asthma-related QOL
  - Presumably controlled for gender, age, negative affect and number of co-morbid medical problems
  - Were there enough males to address gender differences?


Stress Worsening Allergy/Asthma Patients: Mechanistic Reasons?
- Th1/Th2 imbalance, Treg alterations, direct innervation of airway smooth muscle
- Conditioned anaphylaxis response?

Massage Therapy

Breathing Retraining

Stress Management – Non-psychological (For Discussion as Guided by Participants)
- Exercise and Nutrition (antioxidants, Vitamin D/E?, caloric intake, stimulants, etc.); Resiliency Training

Barriers to Stress Counseling y Providers
- Lack of appreciation of the body-mind-spirit components of humanity and disease (fundamental to integrative medicine); Lack of training (future postgrad course in stress management at AAAAI?); concerns about perceptions by patient; lack of reimbursement or support for mental health referral