INTERNATIONAL SOCIETY FOR THE ADVANCEMENT OF RESPIRATORY PSYCHOPHYSIOLOGY (ISARP)

11th Annual Meeting
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Meeting Report

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The eleventh annual meeting of the International Association for Advancement of Respiratory Psychophysiology took place in Princeton, New Jersey, on October 17-19, 2004. The weather and fall colors were beautiful, and the proximity to Princeton University and the Institute for Advanced Study lent an atmosphere of serious intellectual pursuit. Although some topic areas were based on respiratory disciplines dating back hundreds of years, the emphasis at the meeting was on rigorous science, including thoughtful methodological critique as well as applications of the latest advances in physiological measurement.

The meeting had several foci:

One was on controlled breathing, therapeutic applications of it, and mechanisms of action. Some controlled breathing interventions are imbedded in various meditation methods derived from Eastern practices, including a meridian-based approach, Yoga, . In other cases it involves heart rate variability biofeedback, in which people naturally adopt a respiratory rhythm of approximately 6/minute (0.1 Hz), and deliberate control of minute volume ventilation and end-tidal carbon dioxide. Workshops on Yoga, respiratory inductive plethysmography, and “whole body breathing” were given. Reports were given about impact of these techniques on cardiovascular disease, respiratory disease, anxiety, depression, and human performance.

Two invited papers focused on conscious control of breathing. Neil Cherniack summarized research on neural, emotional, and behavioral control of breathing; and implications for conscious control of breathing. Akio Umezawa reviewed his research on emotional determinates of respiratory patterns, and his research showing how slow abdominal breathing can reverse hyperventilation.

A number of papers focused on behavioral aspects of respiratory disease, including the overlap between asthma and panic disorder. Investigations included assessment of stress, anxiety, and cortisol in asthma, psychological factors affecting medication adherence in asthma, self-regulation beliefs among people with asthma and their impact on self-care behaviors, neural mediation of stress effects on asthma, assessment of family dynamics in mediating psychological effects on asthma, relationship between asthma and depression, emotional asthma triggers, the impact of psychiatric morbidity in asthma, and panic anxiety in vocal cord dysfunction, a disorder that often is mistaken for asthma.

Several papers also examined the relationship between hyperventilation and panic, and tendency to hyperventilate among patients with chemical sensitivity and anxiety disorders.

Thomas Ritz gave the presidential address summarizing his research on emotional triggers of asthma.

A number of papers were given on heart rate variability and baroreflex control, including studies on the genetic and central neural mechanisms of heart rate variability, the relationship between HRV and a number of important physiological and clinical parameters, including vagal modulation and withdrawal, respiration rate, emotional reactivity, cognitive performance, atherosclerosis. The emphasis on several papers was on respiratory influences and gating in heart rate and blood pressure variability, and potential use of respiratory gating in assessment of conditions associated with changes in heart rate variability.

Dwain Eckberg gave an invited paper on respiratory gating in heart rate variability, and its implications for understanding heart rate variability and autonomic modulation.

A number of papers, including an invited symposium, was devoted to dyspnea and respiratory symptom perception: its physiology and neurophysiology, ways to measure it, and both emotional and behavioral influences on dyspnea and, generally, self-report of respiratory symptoms.

Other topics.

Theoretical papers were given on mechanism included the role of nitric oxide in asthma, autonomic modulation in respiratory and heart rate variability biofeedback, hyperventilation in chronic fatigue syndrome, the impact of Yoga practice on breath holding time and pulmonary function