Relaxation techniques for stress & pain management

Shelagh Wright PhD
Origin of term ‘stress’

• ‘stress’ in the 17th century meant ‘hardship, adversity, straits or affliction’

• use of the term evolved in 18th century to denote ‘force, pressure, strain or strong effort’

• 1910: Sir William Osler assumed a causal relationship between hard work, stress and strain with his patients suffering from angina pectoris
Distress: Negative Stress

- Crushes
- Oppresses
- Unusual events carried beyond rational limits
Eustress: Positive Stress

- Motivates
- Excites
- Energizes
Psychological literature:

three different approaches to stress

• An engineering, or stimulus based approach;
• A medicophysiological, or response based approach;
• A dynamic psychophysiological response, intervening between stimulus and response, mediated by cognitions (thoughts)
Engineering model of stress

• treats stress as a stimulus characteristic of the person’s environment
• ‘Stress is that which happens to a person’ (Symonds, 1947)
• viewed this way stress is a set of causes
Hans Selye’s View of Stress

• Stress is the nonspecific response of the body to any demand placed upon it to adapt.
The General Adaptation Syndrome ‘GAS’ (Selye, 1950s)

- stress: ‘all of the non-specifically induced changes produced by a noxious agent’
- response-based approach to stress: activation of two neuroendocrine systems:
  - HPA: hypothalamic-pituitary-adrenal
  - SAM: sympathetic-adrenal medullary
- Both under influence of hypothalamus
The nervous system (NS)

**Central NS**
- Brain
- Spinal cord

**Peripheral NS**
- Somatic NS
- Autonomic NS
  - Sympathetic NS
  - Parasympathetic NS

**Reactions**
- Increased heart rate
- Dilated airways
- Inhibited digestion
- Constricted blood vessels
- Increased mental alertness
- Mobilised fat and sugar
- Increased ability of blood to clot
- Increased sweating
- Decreased saliva flow
- Increased saliva flow
- Secretion of adrenaline and noradrenaline (acute)
- Cortisol (chronic)
Fight or flight response

phrase coined by Walter Cannon (1914):

• A survival instinct to fight or run
• Biological purpose: to cope with physical stressors
Fight or flight response

- increased heart rate
- increased ventilation
- constriction of peripheral blood vessels/circulation
- increased serum glucose levels
Fight or flight response

- increased free fatty acid mobilization
- increased blood clotting
- increased muscular strength
- decreased gastric movement
- increased perspiration to cool body temperature
Anger and Fear

- two emotions associated with the stress response:
  - *anger*
  - *fear*
- anger produces the urge to *fight*
- fear promotes the urge to *run and hide*
General Adaptation Syndrome

Stage 1
Alarm Reaction

Stage 2
Resistance

Stage 3
Exhaustion
General Adaptation Syndrome

- Exhaustion Stage
  - physiological
    - headaches, colds & flu
  - psychological
    - severe depression
  - interpersonal
    - end of relationships
- Inability to defend against stressors
Richard Lazarus’ View of Stress:

‘A state of anxiety produced when events and responsibilities exceed a person’s coping abilities’.
Transactional model of Stress

- primarily concerned with cognitive evaluation and coping;
- ‘Transaction’ implies a newly created level of interaction in which the separate person and environment elements are linked to form a new relational meaning.
Lazarus (1984)

- emphasis has changed from environmental stressors and responses to a **consideration of personal perceptions of environmental events**
- meaning an event has for a person, based on the person’s feelings of threat, vulnerability and ability to cope
Stress is a process

- a person experiences a range of changing emotions;
- these feelings affect a person’s behaviour;
- a person’s behaviour impacts upon those around him or her.
Stress as a Process

• process is concerned with the flow of events;
• the environment and the person and his or her relationship with it are constantly changing;
• in primary appraisal a situation is perceived as either benign or a threat, challenging or harmful;
• secondary appraisal is concerned with the question of coping.
Coping as a process

• coping is what the person actually thinks and does in a stressful encounter and how these thoughts and actions change as the situation unfolds;

• coping is:
  - context dependent;
  - influenced by appraisals and resources;

• coping refers to efforts to manage, not the success of those efforts.
In problem focused coping

the person:

• seeks information;

• tries to cope through problem solving strategies which may help to regain self control;

• attempts to change the situation.
Effective coping depends on resources related to

- health and energy;
- positive belief;
- problem solving skills;
- social skills;
- material resources.
Problem-focused coping includes

- problem-solving;
- decision making;
- information gathering;
- goal setting.
Problem-focused coping confers psychological benefits:

- increases self-esteem;
- increases sense of control;
- increases self-efficacy.
Emotion-focused coping: maladaptive

• Smoking;
• alcohol consumption;
• sickness absence;
• substance abuse.
Emotion-focused coping: maladaptive

• brings temporary relief;
• increases vulnerability to burn out;
• contributes to attrition rate.
Emotion-focused coping: adaptive

- stress control techniques;
- aimed at changing internal environment;
- change perception of stressor;
- increase sense of control and efficacy.
Complementary Therapies

- therapies which provide support;
- help to enhance overall well-being;
- may be used in conjunction with conventional medicine and nursing care
The Relaxation Response
(Benson, 1974)

• Counteracts harmful effects of stress;
• Requirements:
  ➢ quiet environment (not essential)
  ➢ mental device
  ➢ passive attitude
  ➢ comfortable position (not essential)
The relaxation response promotes:

- decreased heart rate
- decreased rate of breathing
- slower brain waves
Purpose of Relaxation Techniques

• *Deactivate* the five senses
  – body's sensory system

• *Decrease* stimuli and their associated perceptions

• *Replace* stimuli and perceptions with
  – *non-threatening* sensations that
  – *promote* the relaxation response
Diaphragmatic Breathing

• One of the easiest and most effective methods of relaxation
• Basically
  – controlled deep breathing
• In yoga, this technique is called
  – the pranayama
Steps to initiate diaphragmatic breathing

Assume a comfortable position

Concentration

Visualization
Four phases of concentrated diaphragmatic breathing

• Phase I
  – inspiration

• Phase II
  – a very slight pause before exhaling

• Phase III
  – exhalation

• Phase IV
  – another slight pause after exhalation
    • before the next inhalation is initiated
Rational underlying use of relaxation and imagery techniques:

- increase sense of control by providing techniques people can initiate for themselves;
- reduce feelings of helplessness and hopelessness;
- provide a calming diversion;
- break the pain-anxiety-tension cycle.
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Autogenic Training

• Originated at beginning of 20th century from research on hypnosis by Schultz, a German neurologist;

• Aims to enable the person, *through passive concentration*, to revert from sympathetic activity to parasympathetic activity;

• Designed to reinforce the organism’s natural tendency for homeostasis (Luthe & Schultz, 1969).
AT requirements

- 3 basic positions;
- Use of diary during trainee programme;
- Regular daily practice;
- Use of body scan prior to AT session;
- Use of cancelling technique after AT session;
- Support with lifestyle adjustments-ideally reduce alcohol, caffeine, increase exercise, healthy diet; quit smoking.
Autogenic Training

• Six standard exercises focus on body awareness of
• Limbs: Heaviness and warmth
• Heart and circulatory system
• Breathing
• Nervous system
• AT trainee learns to experience passive concentration
Physical activity

• Promotes excretion of anger hormones;
• Reduces feelings of anger;
• Promotes secretion of body’s natural pain killers: endorphins;
• Enhances ‘feel good’ factor;
• Enhances feelings of mastery, control;
• Improves health, well-being, strength & fitness;
• Converts negative energy to positive energy & use;
• Exercise bike is basic gym.
Cognitive-Behavioral Therapies

• Emphasis on self-management
• Share 4 common components
  ➢ Education;
  ➢ Skills acquisition;
  ➢ Cognitive and behavioral rehearsal;
  ➢ Generalization and maintenance.
Cognitive-behavioural techniques for relaxation

- progressive muscle relaxation,
- guided imagery,
- autogenic training,
- meditation,
- music therapy,
- breathing techniques,
- yoga
Impact of CBT/CT on QoL

- Increase sense of self-efficacy/mastery/coping;
- Reduce helplessness/hopelessness/anxiety/distress;
- Promote relaxation response/ break pain-anxiety-tension cycle;
- Provide support; promote overall well-being; fulfil psychological need.


Linden, W. *Autogenic Training; A Clinical Guide*. London, Guilford


Rankin-Box, D (2001) *The Nurses’ Handbook of Complementary Therapies* 2nd ed Balliere Tindall

