Adaptation theory is one of the major concepts integrated throughout the nursing program. Hans Selye’s theory of stress and adaptation is the major theory taught and is introduced in the first nursing course, Intro to Practical Nursing. Following in this handbook are handouts and information that will be helpful to you regarding this area.

Adaptation Handout #1  Adaptation Model
Adaptation Handout #2  Selye Theory
Adaptation Handout #3  Indicators (Calista Roy)

ADAPTATION MODEL

Stimuli - Stressor

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Human
(Adaptive Individual)

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Response – Stress

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Illness
(Maladaptive Behaviors)

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Anxiety

↓

Coping Mechanisms

↓

Adaptation

↓

Survival – Growth- Mastery

Death with Dignity

Health
(Adaptive Behaviors)
I. Stress as a Concept
   A. Involves several dimensions
      1. cause of stress
      2. nature of stressor
      3. the immediate physical, social, and psychologic response
      4. long-term or permanent physical and mental changes created by stress
   B. Definitions
      1. a response to a stimulus or stressor
      2. Selye defines stress as "a nonspecific response of the body to any kind of demand made on it."
   C. Stressor - term created by Selye to differentiate cause of stress from response to stress. 'Any factor that produces stress and disturbs the body's equilibrium.'

II. General Adaptation Syndrome (GAS)
   A. Defined
      1. physiological response of the whole body to stress
      2. involves several body systems, primarily the autonomic nervous system and the endocrine system
   B. Stages
      1. Alarm Reaction (AR) - mobilization of the defense mechanisms of the body or the mind to cope with the stress
         a) "fight or flight" response (hormonal)
         b) increased mental energy and alertness
         c) if not resolved...
      2. Resistance Stage (SR) - stabilization, person attempts to adapt to the stressor
         a) hormone levels, heart rate, BP, and cardiac output return to normal
         b) if stage successful body repairs damage
         c) if however stressor remains and person unable to adapt ...
      3. Exhaustion Stage (SE) - body cannot resist the stress, and energy necessary to maintain adaptation is depleted
         a) physiological response is intensified but the person's energy level is compromised and adaptation to the stressor diminishes
         b) physiological regulation diminishes
         c) if stress continues, death may result
III. Local Adaptation Syndrome
A. Response of body tissue, an organ, or a part of the body to the stress of trauma, illness, or other physiological change
B. Examples
  1. reflex pain response = localized response of CNS to stimulus of pain (remove hand from hot surface)
  2. inflammatory response

IV. Stress Responses - physiologic and/or psychologic
A. Manner in which an individual responds to a stressful situation is mediated by:
   1. personality
   2. perception of the stressor
   3. resources for coping
B. Factors influencing the response to stressors
   1. intensity - greater the magnitude of the stressor, the greater the stress response
   2. scope (range in which stress encompasses a person's total well-being) - the greater the scope of a stressor, the greater the stress response
   3. duration - greater the duration, greater the stress response
   4. number and nature of other stressors present - increase in presence of multiple stressors, the greater the stress response

V. Adaptation - Process of change that occurs as a person responds to stress
A. General characteristics
   1. an adaptive response occurs when a stimulus from the internal or external environment threatens a person's well-being
   2. an attempt to maintain optimal function through physiological and coping mechanisms
   3. because stress is inevitable, the need for adequate adaptation is imperative
B. Components
   1. Physiological adaptation
      a) process by which body responds to a stressor to maintain functioning compatible with survival
      b) physiologic response may be limited to a particular body area or may involve the entire body
   2. Psychosocial adaptation
      a) involves using the psychological coping mechanisms that defend the patient in the presence of stress.
      b) basic forms of psychosocial adaptation are common among all personality types
3. Developmental Adaptation
   a) include cognitive development and education plus perceptions of other people and the world in general, problem-solving ability, and communication patterns
   b) can be strongly influenced by emotions

4. Sociocultural Adaptation
   a) social network may provide formal or informal psychological support to assist a person in adapting to stress
   b) social component often closely interrelated with the other component of adaptation

5. Spiritual Adaptation - can include beliefs regarding a supreme being, a feeling of oneness with nature and the world, and a positive sense of life's meaning and purpose

VI. Coping
   A. Definitions
      1. adjusting to or solving internal and/or external challenges
      2. coping measures help us resist and master stressors
      3. once successful, then particular coping skills become part of inner "armor" or first line of defense and can be used again in similar situations
   B. Five Models of Coping (Lazarus)
      1. Information seeking form ourselves and others
      2. Direct action (walking away from a tense situation)
      3. Inhibition of action (don't pound fist on table when angry)
      4. Seeking social support from significant others or other appropriate sources
      5. Use of intrapsychic defense mechanisms
   C. Defense Mechanisms - unconscious psychologic and behavioral strategies that help protect a person from anxiety
      1. develop through life
      2. when defense mechanisms (DM) work correctly, they reduce anxiety and decrease secretions of stress hormones, thereby protecting the person against a serious stress response
      3. DM most always operate at an unconscious level
      4. DM tend to be self-deceptive - works by masking or disguising our true motives from ourselves or by denying the existence of impulses, actions, or memories that might be anxiety provoking
5. Common defense mechanisms
   a) Rationalization
   b) Projection
   c) Repression
   d) Suppression
   e) Denial
   f) Selective Inattention
   g) Reaction formation
   h) Sublimation
   i) Displacement
   j) Regression
   k) Introjection
   l) Identification
   m) Isolation or depersonalization
   n) Compensation

VI. Psychophysiological Illness
   A. Physical or mental illness develops if-
      1. a person's defenses are overwhelmed by stressors
      2. a person is unaware of the significance of a stress response and chooses to deny or ignore it
      3. a person is either unwilling or unable to engage in self-help activities
      4. a person overuses defense mechanisms
   B. Patients with psychophysiological disorders have physical symptoms with psychological components which play a significant role in the expression and manifestation of the physical symptoms. In other words, emotions act as precipitating or aggravating factors in physical illnesses.

INDICATORS OF POSITIVE ADAPTATION (Adapted from Calista Roy)

Physiological Function

1. Oxygenation

   Stable processes of ventilation, stable pattern of gas exchange, adequate transport of gases, adequate processes of compensation

2. Nutrition

   Stable digestive processes, adequate nutritional pattern for body requirements, metabolic, and other nutritive needs, altered means of Ingestion
3. Elimination

Effective homeostatic bowel processes, stable pattern of bowel elimination, effective processes of urine formation, stable pattern of urine elimination, effective coping strategies for altered elimination

4. Activity and Rest

Integrated processes of mobility, adequate recruitment of compensatory movement processes during inactivity, effective pattern of activity and rest, effective sleep pattern, effective environmental changes for altered sleep conditions

5. Protection

Intact skin, effective processes of immunity, effective healing response, adequate secondary protection for changes in skin integrity and immune status

6. Senses

Effective processes of sensation, effective integration of sensory input into information, stable patterns of perception, i.e. interpretation and appreciation of input, effective coping strategies for altered sensation

7. Fluid and Electrolytes

Stable processes of water balance stability of salts in body fluids, balance of acid/base status, effective chemical buffer regulation
8. Neurological Function

Effective processes of arousal/attention, sensation/perception; coding, concept formation, memory, language; planning, motor response, integrated thinking and feeling processes, plasticity, and functional effectiveness of developing, aging, and altered nervous system

9. Endocrine Function

Effective hormonal regulation of metabolic and body processes, effective hormonal regulation of reproductive development, stable patterns of closed loop negative - feedback hormone systems, stable patterns of cyclical hormone rhythms effective coping strategies for stress

Self-Concept

1. Physical Self

Positive body image, effective sexual function, psychic integrity with physical growth, adequate compensation for bodily changes, effective coping strategies for loss, effective process of life closure

2. Personal Self

Stable pattern of self-consistency, effective integration of self-ideal, effective processes of moral-ethical-spiritual growth, functional self esteem, effective coping strategies for threats to self

Role Function

Effective processes of role transition, integration of instrumental and expressive role behaviors, integration of primary, secondary, and tertiary roles, stable pattern of role mastery, effective processes for coping with role changes.

Interdependence

Stable pattern of giving and receiving nurturing, affectional adequacy, effective pattern of aloneness and relating, effective coping strategies for separation and loneliness
COMMON RECURRING ADAPTATION PROBLEMS (Adapted from Calista Roy)

Physiology

1. Oxygenation
   Hypoxia/shock, ventilatory impairment, inadequate gas exchange, inadequate gas transport, altered issue perfusion, poor recruitment of compensatory processes for changing oxygen need

2. Nutrition
   Weight @ 20/25% above/below average, nutrition more/less than body requirements, anorexia, nausea and vomiting, ineffective coping strategies for altered means of ingestion

3. Elimination
   Diarrhea, bowel/bladder incontinence, constipation, urinary retention, flatulence, ineffective coping strategies for altered elimination

4. Activity and Rest
   Inadequate pattern of activity and rest, restricted mobility, gait, and/or coordination, activity intolerance, immobility, disuse consequences, potential for sleep pattern disturbance, fatigue, sleep deprivation

5. Protection
   Disrupted skin integrity, pressure sores, itching, delayed wound healing, infection, potential for ineffective coping with allergic reaction, ineffective coping with changes in immune function

6. Senses
   Impairment of a primary sense, potential for injury/loss of self care abilities, potential for distorted communication, stigma, sensory monotony/distortion, sensory overload, deprivation, acute pain, chronic pain, perceptual impairment, ineffective coping strategies for sensory impairment

7. Fluid and Electrolytes
   Dehydration, edema, intracellular water retention, shock, hyper or hypokalemia, hyper or hyponatremia, acid/base imbalance, ineffective buffer regulation for changing pH

8. Neurological Function
   Decreased level of consciousness, defective cognitive processing, memory deficits, instability of behavior and mood, ineffective compensation for cognitive deficit, potential for secondary brain damage

9. Endocrine Function
   Ineffective hormone regulation, reflected in fatigue, irritability, and heat intolerance, ineffective reproductive development, instability of hormone system loops, instability of internal cyclical rhythms, stress.
Self-Concept

1. Physical Self
   Body image disturbance
   Sexual dysfunction
   Rape trauma syndrome
   Loss

2. Personal Self
   Anxiety
   Powerlessness
   Guilt
   Low Self Esteem

Role Function

Role Transition
Role Distance
Role Conflict
Role Failure

Interdependence

Ineffective pattern of giving and receiving nurturing
Ineffective pattern of aloneness and relating
Separation anxiety
Loneliness