

## roys ADAPTATION THEORY

### INTRODUCTION

theories are general explanation which scholars use to explain, control and understand commonly occurring events.”Theory is defined as a set of proposition used to describe, explain, predict and control events”.theory helps in providing knowledge to improve practice by describing, explaining,predicting and controlling phenomena.

In our field we have different theories ;one such is Roy’s adaptation , which describes that human are bio-psychosocial adaptive system who cope with environmental changes through the process of adaptation.

### CREDENTIALS OF THEORIST

Sr. Callista Roy is highly respected nurse theorist ,writer, lecturer and researcher.She was born 14<sup>th</sup> October 1939 in Los Angeles, California.

### EDUCATION/TRAINING AND DEGREE

- 1963:- She received a Bachelor of arts in nursing from Mount Saint Mary’s College in Los Angeles.
- 1964-1966:- The basic concepts of the adaptation model were developed while Roy was a graduate student.
- 1966:-She received Master of science in nursing at Los Angeles from the University of California.
- 1968:- Roy began operational zing her model when Mount Saint Mary’s College adopted the adaptation frame work as the philosophical foundation of nursing curriculum.
- 1973:- She received M.A in sociology.
- 1977:- she received PhD in sociology from the university of California.
- 1978-1982:- Roy was an associate professor and chair person of the department of nursing at the when Mount Saint Mary’s College.

- 1983-1985:- she was a Robert,Wood Johnson post doctoral fellow at the university of California in San Francisco(neuro science).

#### HONOR AND AWARDS(SELECTED)

- ✓ 1981:- she received the national founder's Award.
- ✓ 1984:- She got Honorary Doctorate of human letters by Averno college.
- ✓ 1985:- She got Honorary Doctorate from Eastern Michigan University.
- ✓ 1986:- A.J.N book of the year award for the essentials of the Roy's adaptation mode.
- ✓ 2000:- Alpha Sigma Nu Jesuit Universities Book Award for Roy's adaptation model based research:25 years of contributions to nursing science.

#### THEORITICAL SOURCES

- Roy's adaptation for nursing was derived in 1964 from Harry Helson's work in psychophysics
- Dorothy Johnson encouraged her to develop her concept of adaptation as a frame work for adaptation during her masters programme at university of California.
- Helson's theory: according to him adaptation is a process of responding positively to environmental changes and his environment changes and his adaptation is made up of focal stimuli, contextual stimuli and residual stimuli.
- Roy combines with Helson's work with Report's definition of system and views the person as an adaptive system
- Other co-worker also elaborated the concepts:- M.Pousch and J.Van Landingham for the independent mode and B.Randall for the role function mode.
- Humanism:- The model uses the concept from Maslow to explore beliefs and values of person.

## EMPIRICAL EVIDENCE

Rambo and Randell, Tedrow and Van Landingham have expanded Roy's model for nursing implication.

Roy's assumption, which conceptualizes the person, is having four modes of adaptation- physiological needs, self concept, role functions, and interdependence relations based on experience of Roy's and others. She noted that these categories have been refined and established as useful and valid for nursing assessment.

## MAJOR CONCEPTS AND DEFINITION

SYSTEM:- A system is a 'set of units so related and connected as to form a unity or 'whole' and characterized by inputs, outputs, control and feedback process".

## CHARACTERISTICS OF SYSTEM

### INPUT

In Roy's system, input is defined as a stimuli which can come from the environment or from within the person. stimuli are classified as focal contextual, and residual. Input also includes a person's adaptation level. Each person's adaptation level is unique and changes constantly.

### FOCAL STIMULUS

A focal stimulus is the degree of changes or stimulus most immediately confronting the person and the one to which the person must make an adaptive response that the factors that participate in the behavior.

### CONTEXTUAL STIMULI

Contextual stimuli are all other stimuli present that contribute to the behavior caused or precipitated by the focal stimuli.

### RESIDUAL STIMULI

Residual stimuli are the factors that may be affecting the behavior but whose effects are not validated.

### ADAPTATION LEVEL

A person's adaptation level is a constantly changing patient made up of focal , contextual and residual stimuli, which represents the person's own standards of the range of stimuli to which one can respond with ordinary adaptive response.

### ADAPTATION PROBLEMS

Adaptation problems are the occurrence of situation of in adequate response to need deficits or excess.

### COPING MECHANISMS

There are two types of coping mechanisms.

### REGULATOR

A regulator is subsystem coping mechanism which responds automatically through neural-chemical-endocrine process.

### COGNATOR

A cognator is subsystem coping mechanism which responds through complex process of perception and information processing ,learning ,judgement and emotion.

### ADAPTIVE 9EFFECTOR0MODES

adaptive or effectors modes are a 'classification of ways of dealing with adaptation in regards to fluid and electrolytes, exercise and rest, elimination, circulation and oxygen and regulation which includes the senses, temperature and endocrine regulation.

### SELF CONCEPT MODES

Self concept is the composite of belief and feeling that one holds about oneself at a given time. It is formed from perception, particularly of others reaction and directs one's behavior.

## ROLE PERFORMANCE MODE

Role function is the performance of duties based on given positions in society. The way one's performs a role is dependent on one's interaction with the other in the given situation. The major roles that one plays can be analyzed by imagining a tree formation. The trunk of the tree is one's primary role that is one's developmental role –e.g. generative adult female. Secondary roles branches off from this –e.g. wife, mother, teacher. Finally tertiary roles branch off from secondary role-e.g. the mother role must involve other associates for a given period of time.

## INTERDEPENDENCE

The interdependence modes involves one's relations with significant others and support system. In this mode one maintains psychic integrity by meeting needs for nurturance and affection

## **OUTPUT**

Output is the outcome of the system when the person is a system, output refers to the behavior of the person. In Roy's system, output refers to the behavior of the person. In Roy's system, output is categorized as adaptive responses or ineffective responses.

## ADAPTIVE RESPONSES

Adaptive responses are 'responses that promote integrity of person in terms of goals, that is survival, growth, reproduction and mastery.

## INEFFECTIVE RESPONSES

Ineffective responses are 'responses not contribute to adaptive goals, that is survival, growth, reproduction and mastery'.

## MAJOR ASSUMPTIONS PERSON

## According to Roy

- person in a bio psycho social being in constant interaction with changing environment;he is a recipient of nursing care.
- An adaptive system with coping process.
- The person as a living system is a whole made up of parts or sub system that function as a unity for some purpose
- Include people as an individuals or in groups
- An adaptive system with cognator and regulator subsystems acting to maintain adaptation in four adaptive modes : physiological physical, self concept group identity, role function and interdependence.

## ENVIRONMENT

### According to Roy

- Environment is ‘all conditions, circumstances and influences surrounding and affecting the development and behavior of persons and groups’.
- Environment is the input in to the person as an adaptive system involving both internal and external factors. These factors may be slight or less negative or positive. However any environment changes demands increasing energy to adapt to the situation.
- Factors in the environment that affect the person are categorized as focal, contextual and residual stimuli.

## HEALTH AND ADAPTATION

According to Roy,

- Health is a state and process of being and becoming integrated and whole person. Lack of integration represents lack of health.
- Adaptation is a process of promoting physiological psychological and social integrity and that integrity implies an unimpaired condition leading to completeness and unity and health ensues when man continually adapts

## NURSING

According to Roy,

- Nursing's scientific body of knowledge used for the purpose of providing an essential service to people, that is promoting ability to affect health positively.
- Roy's goal of nursing is to help man, adapt to changes in his physiological needs, his self concept, his role functions and his interdependent relation during health and illness.

## ROY'S THEORY MAJOR ASSUMPTION

### (1)EXPLICIT ASSUMPTION

- a) The person is a bio-psychosocial being.
- b) The person is in constant interaction with a changing environment.
- c) To cope with a changing world, the person uses both innate and acquired mechanisms, which is biologic, psychological, and social in origin.
- d) Health and illness is one inevitable dimension of the persons life.

- e) To respond positively to environmental changes the person must adapt.
- f) The person's adaptation is a function of the stimulus.
- g) The person's adaptation level is such that it comprises a zone indicating the range of stimulation that will lead to positive response.
- h) The person has four modes of adaptation.
- i) Nursing accepts the humanistic approach of valuing other persons opinion and view points.
- j) Interpersonal relationship are an integral part of nursing
- k) There are dynamic objectives of human existence with the ultimate goal of achieving dignity and integrity.

## (2)IMPLICIT ASSUMPTION

- a) Nursing is based on casuality
- b) Person can be reduced to parts for study and care.
- c) patients values and opinion are to be considered and respected
- d) A stae of adaptation frees an individual energy to respond to the other stimuli

## THEORITICAL ASSERTIONS

- ❖ Roy's model focuses on the concept of adaptation of man. Her concept of nursing, person, health and environment are all interrelated to this central concept.
- ❖ The person continually scans the environment for stimuli so he can respond and ultimately adapt.
- ❖ Nursing has a unique goal to assist the person in his adaptation effort by managing the environment.
- ❖ The result is attainment of an optimum level of wellness by the person.

- ❖ As an open living system, the person receives input or stimuli from both the environment and self.
- ❖ The adaptation level is determined by combined effect of the focal, contextual and residual stimuli
- ❖ Adaptation occurs when the responds positively to the environmental changes

#### THERE ARE TWO INTER RELATED SYSTEMS IN ROY'S MODEL

- The primary /functional/control process subsystem: consists of the regulator and cognator.
- The secondary ,effector subsystem: consists of four adaptive modes- physiological needs, self concept, role function and interdependence

Roy views the regulator and cognator as method of coping. Perception of the person links the regulator with the cognator in that 'input into regulator is transformed into perceptions. perception is a process of cognator. The responses following perception are feedback into both cognator and ragulator'.

Four adaptive modes of second sub system in the roy's model provides form or manifestation of cognator and regulator activity. Responses to the stimuli are carried out through these four adaptive modes.yhe modes purpose is to achieve physiological, psychological and social integrity. Inter related proposition of the cognator andregulator subsystems link the systems of adaptive modes.

#### **ROYS CONCEPT OF NURSING PROCESS**

The Roy adaptation model offers guidelines to the nurse in developing the nursing process. The five elements of Roys nursing process parallel the five phases of the nursing process.

#### (A) **THE FIRST LEVEL ASSESSMENT**

First level assessment is considered the gathering of output behaviours of the person as an adaptive system in relation to each of the four adaptive modes physiological function , self concept ,role function and interdependence.

First level assessment is referred to as behavior assessment.

### (B)SECOND LEVEL ASSESSMENT

In this phase of assessment the nurse collect data about the focal, contextual and residual stimuli impacting on the clients.

### (B) NURSING DIAGNOSIS

Roy described three method of making a nursing diagnosis. In applying three method of making a nursing diagnosis. In applying this method of diagnosis to the example of Mr. smith the diagnosis would be: Hypoxia

- The second method is to make diagnosis by stating observed behavior along with the most influencing stimuli.
- Using this method a diagnosis for smith could be stated as “Chest pain caused by a deficit of oxygen to the heart muscle associated with an over exposure to hot weather.
- The third method summarized behavior in one or more adaptive modes related to the stimuli.
- In this case appropriate diagnosis might be “Role failure associated with limited physical(Myocardial) ability to work in hot weather.

**WORKING TYPOLOGY OF COMMON ADAPTATION PROBLEMS**

PHYSIOLOGIC MODE	SELF CONCEPT MODE	ROLE FUNCTION MODE	INTRDEPENDENCE MODE
<p>1 <u>Oxygenation</u></p> <p>Hypoxia</p> <p>Shock</p> <p>Overload</p> <p>2 <u>Nutrition</u></p> <p><u>Malnutrition</u></p> <p>Nausea</p> <p>Vomiting</p> <p><u>Elimination</u></p> <p>3 Constipation</p> <p>Diarrhoea</p> <p>Flatulence</p> <p>Incontinence</p> <p>4 <u>Activity &amp; Rest</u></p> <p>Inadequate</p> <p>Physical activity</p> <p>Inadequate rest</p> <p>Skin integrity</p>	<p><u>1Physical self</u></p> <p>Decresed sexual self concept</p> <p>Aggressive sexual behavior loss</p> <p><u>2Personal self</u></p> <p>Anxiety</p> <p>Powerlessness</p> <p>Guilt</p> <p>Low self esteem</p>	<p>Role transition</p> <p>Role distance</p> <p>Role conflict</p> <p>Role failure</p>	<p>Separation</p> <p>Anxiety</p> <p>Lonliness</p>



	<ul style="list-style-type: none"> <li>• Fluid and electrolytes</li> <li>• Neurologic function</li> <li>• Nutrition</li> <li>• Oxygenation</li> <li>• Sensus</li> </ul>	<p>Rape trauma syndrome: compound reaction</p> <p>Altered sexuality pattern</p> <p>Potential volume deficit</p> <p>Fluid volume excess</p> <p>Actual fluid volume deficit</p> <p>Potential fluid volume deficit</p> <p>Altered thought processors</p> <p>Ineffective thermoregulation</p> <p>Hyperthermia</p> <p>Hypothermia</p> <p>Alteration in oral mucous membrane</p> <p>Alteration in nutrition: Less than body requirement</p> <p>Alteration in nutrition: more than body requirements</p> <p>Potential alteration in body temperature</p> <p>Alteration in tissue perfusion: Renal cerebral, cardio pulmonary, gastro intestinal, pberipheral.</p> <p>Ineffective airway clearance</p> <p>Ineffective breathing pattern Impaired gas exchange</p> <p>Alteration cardiac output decreased</p> <p>Alteration in comfort: pain , chronic pain</p>
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<p><u>2</u></p>	<ul style="list-style-type: none"> <li>• skin integrity</li>   <li>• Self concept mode</li> </ul>	<p>Sensory perceptual alteration: visual, auditory, tactile, olfactory, unilateral neglect.</p> <p>Impaired skin integrity</p> <p>Potential impairment of skin integrity</p> <p>Potential of infection</p> <p>Potential of injury: Truma, poisoning, suffocation</p> <p>Personal identity disturbance in self concept.</p> <p>Anxiety</p> <p>Body image disturbance in self concept</p> <p>Ineffective individual coping</p> <p>Fear</p> <p>Alteration in health maintenance</p> <p>Impaired adjustment</p> <p>Identity confusion</p> <p>Powerlessness</p> <p>Spiritual distress</p> <p>Disturbance in self concept: disturbance in role performance</p>
<p><u>3</u></p>	<ul style="list-style-type: none"> <li>• Role function mode</li> </ul>	<p>Hopelessness</p> <p>Personal identity confusion</p> <p>Post trauma response</p> <p>Alteration in family process</p>

<u>4</u>	<ul style="list-style-type: none"><li>• Interdependence mode</li></ul>	Family coping: potential for growth Ineffective family coping: disabled Potential alteration in parenting Impaired verbal communication Anticipatory grieving Dis functional grieving Translocation syndrome Social isolation Potential for violence: self directed Impaired social interaction Spiritual distress
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#### D)GOAL SETTING

Goals are the end point behaviors that the person is to achieve.They are recorded as client behaviours indicative of resolution of the adaptation problem.

- long term goals would reflect resolution of adaptive problems.
- Short term goals identify expected client behaviours.

#### (E)PLAN FOR IMPLIMENTATION

Nursing implementation are planned with the purpose of altering (or) residual stimuli.

-it may also focus on broadening the persons coping ability.

#### (F)EVALUATION

Goals behavior are compared to the persons output behaviors and movement towards (or) away from goal achievement is determined.Based on evaluation data. Readjustment are made.

### **ROYS THEORY APPLICATION**

#### **(A) IN NURSING EDUCATION**

the nursing model has demonstrated its usefulness in education. As a theoretical framework for nursing education. It is most widely being used in United States.

- A combination of nursing process and adaptation problem provide the framework for nursing curricula based on the model.
- And form the knowledge and practice that are developed throughout the education programme

(B) IN NURSING PRACTICE

The clinical application of an explicit model improves nursing practice. By integrating theory into everyday processes of patient care. The adaptation model has been used in practice to design nursing interventions based on management of stimuli (or) strengthening of adaptive process.

(C) IN NURSING RESEARCH

Roy's has provided research examples from both basic and clinical nursing science.

-In basic nursing science the model has been used as frame work for exploring how the cognator coping mechanism acts to promote adaptation and its relationship.

-In clinical nursing science is used in cognitive recovery of patient with head injury.

-This model clearly has been demonstrated its usefulness in research to date

(D) IN NURSING ADMINISTRATION

The clinical application of Roy's model by integration theory into everyday processes of patient care and nursing administration, helping to define nursing role , and goals facilitating communication among nurses.

**CONCLUSION**

Roy's model consist of the five sources of person, goal of nursing, nursing activities health and environment. Person are viewed as living adaptive system, whose behavior may be classified as adaptive responses (or) ineffective responses. These responses are derived from the regulator and cognator mechanisms. These mechanisms work within the four modes(adaptive modes). The goal of nursing is to promote adaptive responses. Roy's nursing process parallel to five phases of nursing process. She assumed that person is bio psycho social being .Roy's theory

will be applicable in nursing practice education, administration, and research.

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SUBJECT-ADVANCE NURSING PRACTICE

PRESENTATION ON  
ROY'S ADAPTATION  
THEORY

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