Manifestations of consciousness and the developmental phenomenon of death

Recent developments in nursing science include the development of theoretic structures that focus on the developmental nature of the human life process. According to Rogers, this life process represents a unitary phenomenon within which change is constant and evolutionary. Such change occurs through a dynamic, rhythmic interaction between the person and the environment. A theoretic framework derived from conceptualizations of the life process with its associated manifestation of consciousness and the developmental phenomenon of death is presented. The concepts and identified propositions are related to specific empiric indicators for testing or measurement. Implications of the proposed relationships between state of consciousness and resolution of death anxiety for nursing practice are also discussed.

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THERE EXISTS within the discipline of nursing a need for continued development of theoretic structures that describe, explain, and predict developmental phenomena within the human life process. Rogers[1] conceptualizes the human life process as a unitary phenomenon within which change is constant and evolutionary. Such change occurs through a dynamic, rhythmic interaction between the person and the environment. Rogers postulates that the rhythmicity of the person-environment interaction portends evolutionary development, ie, the increasing creative complexity of life, negentropy. The rhythmic exchange of energy between humans and the environment is essential for continued evolution of the life process. The life process is represented by the four dimensional space-time matrix that evolves unidirectionally and encompasses sequential stages of development from conception through death.

Death is postulated to represent a transformation of energy. The process of dying

is a variable period of transition in which the pattern and organization, ie, the integrity of the human field, no longer exists. Thus, death is conceptualized as a developmental phenomenon occurring within the life process.

THE LIFE PROCESS

Within Rogers' conceptualization, the life process of unitary humans is represented by the four-dimensional space-time matrix. The human-environmental interaction is characterized by wave patterns. Change is constant in both the human and environmental energy fields and occurs in an orderly rhythmic manner. The nature and direction of that change is continuous, innovative, and probabilistic. It is characterized by increasing complexity and diversity of pattern and organization and emerges from the mutual, simultaneous interaction between person and environment.

According to Rogers,[2] correlates descriptive of the life process include movement from slower rhythms through faster rhythms toward rhythms that seem continuous; movement from longer, lower frequenty waves through shorter, higher frequency waves toward waves that seem continuous; movement from a perception of time dragging through a perception of time racing toward timelessness. Additional correlates specified by Rogers include movement from three-dimensionality through four-dimensionality toward multidimensionality; movement from pragmatic through imaginary toward visionary; and movement from a smaller, less differentiated human field through a larger, more differentiated human field toward a transcendence of arbitrary boundaries between person and environment.

Building on Rogers' correlates, Newman[3] conceptualizes the expansion of consciousness as a manifestation of health as the purpose of the life process. Time, space, and motion patterns are postulated to be correlates of developing consciousness. Patterning and organization among these correlates are postulated to reflect the phenomena of the life process, which are manifested through the behavior patterns of the individual. As such, consciousness may be considered a primary characteristic of the life process.

CONSCIOUSNESS

Ornstein[4] identifies two major modes of consciousness: analytic and intuitive. Ornstein postulates that the two modes are complementary, each with its own function. He suggests that a person's most creative achievements occur through the complementary functioning of the two modes. Synthesis of the two modes into one holistic state could enhance creativity because it would facilitate the exchange of energy between person and environment through the expansion of arbitrary boundaries, leading to increasing growth and knowledge.

Tart[5] uses a systems approach to consciousness. Tart proposes that consciousness can be analyzed into many parts. However, these parts function holistically as a pattern, forming a system. Although the components can be studied separately, they can only be understood when viewed within the total system. Similarly, Tart suggests that understanding the complex-

ity of consciousness requires a holistic approach, ie, viewing it as a complex system while understanding the parts. Tart identifies awareness, energy, and structure as components of consciousness. These components are subject to constant change as the individual progresses along the longitudinal space-time continuum. Awareness, energy, and structure are essential components of evolutionary development and can be understood as being subject to increasing complexity and diversity.

Deikman[6] identifies action and receptive modes of consciousness. The action mode is characterized as manipulative toward the environment, with physiologic emphasis on the "fight or flight" sympathetic nervous system. There is psychologic emphasis on focal attention, electroencephalographic predominance of beta-waves, object-based logic, heightened boundary perception, and dominance of formal over sensory characteristics. The action mode also manifests phenomenologic emphasis on goal-directed behavior, individualism, and future orientation.

In contrast, Diekman characterizes the receptive mode as oriented toward intake of the enviroment, with physiologic emphasis on the sensory-perceptual and parasympathetic nervous system. There is psychologic emphasis on diffuse attention, paralogical thought, decreased boundary perception, dominance of sensory over formal characteristics, and electroencephalographic predominance of alpha-waves. Furthermore, the receptive mode functions maximally during infancy, with subsequent dominance by the action mode. Finally, the receptive mode demonstrates present orientation.

DEVELOPMENTAL PHENOMENON OF DEATH

At some point within the life process, human beings must face the inevitability of personal death. Kastenbaum and Aisenberg[7] identify the overcoming and the participatory relationships with the inevitable event of personal death. In character, these relationships are parallel to Deikman's conceptualization of the action versus the receptive mode of consciousness.[8]

According to Kastenbaum and Aisenberg,[7] the overcoming approach is likely to develop when death is conceptualized as an external contingency; when the context of the anticipated death exhibits overtones of failure, defeat, or humiliation; and when the individual manifests a highly developed need for achievement and independence. In addition, this mode is highly probable when a technologic or magic prospect for supporting the individual's objectives exists. Cultural or group values that require an assertion of power against the devastating or malicious forces of the environment may also support the development of the approach designed to overcome death.

In contrast, Kastenbaum and Aisenberg suggest that an individual is more likely to develop a participatory relationship with death when it is conceptualized as possessing an internal locus; when the context of the anticipated death carries overtones of honor, reunion, or fulfillment; and when the individual has a highly developed sensitivity for cooperative behavior, sharing, and affiliation. A participatory relationship is also likely to occur if technologic or magic props against death are not conspicuous and if positively valued social channels are available through which dying

persons can express themselves and distribute meaningful tokens or symbols. Finally, the development of a participatory relationship is facilitated when the culture feels itself to be in a natural and intimate relationship with the environment.

RELATIONSHIP WITH DEATH: A MANIFESTATION OF CONSCIOUSNESS

Changes in state of consciousness may be precipitated by dominance of a single mode or by synthesis of the two modes into one holistic state. Alterations in consciousness can be produced in any setting by a variety of agents or maneuvers that interfere with normal sensory processing, normal emotional atmosphere, or the normal flow and organization of cognitive processes.[9] Lindsley[10] suggests that normal waking consciounsess is maintained through interaction with an optimal range of exteroceptive stimulation. Lindsley postulates that levels above or below this range are conducive to altering the state of consciousness. Hebb[11] and Freedman, Grunebaum, and Greenblatt[12] suggest that individuals require varied and diverse environmental stimulation if they are to maintain the integrity of normal cognitive, emotional, and perceptual consciousness.

Variations in consciousness

Ludwig[9] identifies variables that appear to facilitate the production of changes in state of consciousness. These include reduction of exteroceptive stimulation and/or motor activity as occurs with the reduction of sensory input; change in patterning of sensory data; or constant exposure to repetitive, monotonous stimuli. A drastic reduction of motor activity and/or emotion comprises a second category of variables. This category includes excitatory mental states as occur with sensory overload. Profound emotional arousal and mental fatigue may be contributing factors. A third category includes increased alertness or mental involvement: mental states resulting from focused hyperalertness with associated peripheral hypoalertness. Finally, Ludwig identifies decreased alertness or relaxation of critical facilities as a fourth category of variables. The presence of somatopsychologic factors may be an intervening variable.

The development of a participatory relationship is facilitated when the culture feels itself to be in a natural and intimate relationship with the environment.

Ludwig[9] and Tart[5] identify some general characteristics of altered states of consciousness. These include alterations in thinking, disturbances of space-time sense, changes in body image, distortion of perception, change in meaning or perception, sense of the ineffable, feelings of rejuvenation, and hypersuggestibility. These characteristics may be representative of the rhythmic exchange of energy within the life process and, as such, may reflect unitary functioning of the action and receptive modes. Such functioning would alter all these components of consciousness: awareness, energy, and structure. It could facilitate mutual simultaneous interaction between the person and the environment

through the expansion of arbitrary boundaries. This, in turn, would expand the human and environmental fields and enhance the exchange of energy.

Functioning of the receptive mode in conjunction with the action mode would enable reorganization of thought processes and the development of different cognitive structures, which could represent a means of maintaining the integrity of the human field, as the individual confronts the inevitability of death. Synthesis of the two modes could then explain, describe, and predict the development of an individual's particular relationship with death.

Attitudes toward death

Two approaches characterize western attitudes in facing one's own death. One is the religious belief of eternal life, the other is existential, which focuses on actively coming to terms with inevitable death.[13] However, western people have difficulty in becoming aware of their attitudes toward death. The tendency is to deny its existence.[14,15] Western culture denigrates the display of emotion that is inherent in facing death. Rather, behavior is rational and analytic. Self-control and individualism are considered ideal. It appears that western people manifest dominance by the action mode of consciousness. As a result, the inevitable confrontation with death tends to be denied.[16] This response reflects an attempt to overcome rather than to participate in personal death. The participatory response is foreign to western culture.[8,17]

Particularly within the context of hospitalization, as the person adopts the sick role, death may be conceptualized as possessing an external locus and being beyond the control of the individual. As a result, it suggests failure and defeat, since the person cannot manipulate it or related events as desired. As patients perceive that their ability to manipulate is impaired, they may experience a loss of self-control and feel that their personal being is threatened. The thought of personal death then produces fear and anxiety, so they attempt to cure death rather than seeking out the knowledge that it is part of life.

Present technology and modern nursing and medicine support this notion that death can be prevented. Patients cling to the idea that they can stop the life process because the separation and isolation from the environment inherent in death is extremely threatening to the ego, since it is so much out of their control.[18] The action mode of consciousness, characterized in part by heightened boundary perception, cannot contemplate its own death without anxiety. Its existence and structure are revealed by death, since the phenomenon transcends established human environmental boundaries.

Patients who rely on the action mode may not be aware that they are anything more than a body. Their attention is focused on objects and definite boundaries, and they have not learned to let go of the ego. They have been compelled to internalize their thoughts, feelings, and fears about death. The absence of rituals and rites of passage in western culture compounds the problem, since people have no thanatomimetic experiences that could facilitate dissolution of the ego. Such rites and rituals would provide an opportunity for the restructuring of consciousness, with an associated redirection

of awareness and environmental energy exchange.

Modal consciousness and relationship with death

Dominance of the action mode perpetuates the fear of death. Patients are unable to establish a participatory relationship with death because it is not viewed as part of the life process, particularly by nurses and physicians.[14,19-24] Instead, death is seen as a terminus, the end point of being.[16,25] In this context, death has neither meaning nor purpose.[25] It is an intrusion into life.

Furthermore, patients need not assume responsibility for confronting death.[20] It is frequently handled for them by the nurse, the physician, or some other person.[26,27] Consequently, anxiety is conceptualized as external rather than as an integral aspect of personal consciousness, and patients solve their problems through manipulation of external objects instead of assuming personal responsibility for integrating death into the life process. Such patients demonstrate fragmentation of their being. Since the action mode restricts the awareness of consciousness, thereby focusing on specific boundaries and object states of being, patients cling to life. They resist change because death is seen only as a negation of being. As such, it causes pain, sorrow, and despair characteristic of the grieving process and of unsuccessful resolution of the epigenetic life stage of integrity versus despair.[28] Therefore, to maintain the integrity of the human field, death must be overcome, ie, denied. Thus, patients do not experience failure or defeat.

Patients who perceive death as part of life can be considered as integrated and whole. If the action and receptive mode were synthesized into one holistic state of consciousness, this could occur. The two modes are complementary, and the individual's most highly creative achievements may occur through their unitary functioning.[4] Synthesis of the two modes could enhance resolution of death confrontation fear/anxiety because it would facilitate the exchange of energy between person and environment, thereby transcending the arbitrary boundaries constructed by the action mode. This would facilitate patterning and repatterning of environmental stimuli, leading to increasing complexity, growth, and knowledge.

Functioning of the receptive mode would enable reorganization of thought processes, and the development of different structures of consciousness could be a means of maintaining the integrity of the human field without externally imposed boundaries. It would reduce the threat to the self by providing a means for ego dissolution, enabling patients to conceptualize death as part of the rhythmic nature of life, thereby accepting its inevitability.

Functioning of the receptive mode in conjunction with the action mode would require a constant exchange of energy with the environment. As a result, death need not be conceptualized as an external contingency. The threat to the self is therefore reduced, and patients maintain a sense of control. Level of awareness is enhanced, and the structure of consciousness could be expanded to include awareness of itself as being, separate from bodily structure. Such functioning is characteristically more receptive to death[7,8,29-31] and enables patients to function maximally during their final stage of growth.[32] In this context,

death can be accepted without fear or pain because it can be viewed as an alteration between two states of being; one constrained by the physical boundaries of the body and one free of boundaries.

SIGNIFICANCE FOR NURSING

The environment of hospitalized persons and its associated changes in exteroceptive and interoceptive stimulation is conducive to the production of alterations in state of consciousness. Thus, the function of the receptive mode is enhanced. The unitary state of consciousness that occurs is characteristically more receptive to death. Nurses should learn to detect and utilize these altered states. Appropriate nursing interventions could facilitate the patient's progression through the stages of the dying process to eventual resolution and acceptance, rather than continue to support the impossible notion of overcoming death. Nursing intervention could be specifically designed to assist patients as they struggle to assume personal responsibility for confronting and integrating death into their concept of life.

OPERATIONALIZATION OF MODEL

Within the context of this model, state of consciousness is defined as the patient's state of awareness regarding existence, sensation, thought, and environment. This can be further defined in terms of exteroception, interoception, input processing, emotions, memory, time sense, sense of identity, evaluation and cognitive processing, motor output, and interaction with the environment. State of consciousness can be measured empirically by the experiential criteria scheme delineated by Tart.[5] This scheme detects changes in each of the identified components defined as consciousness (see boxed material).

The type of relationship manifested with death is defined as the patient's level of death anxiety. This can be further defined as the stage of the dying process and can be evaluated by the Death Anxiety Scale.[33]

State of consciousness is defined as the patient's state of awareness regarding existence, sensation, thought, and environment.

This instrument consists of 15 items and measures thoughts, feelings, fears, and attitudes related to death.

RELATIONSHIP BETWEEN CONCEPTS

The relationship with death is directly related to the patient's state of consciousness. Dominance of the action mode will elicit an overcoming approach, whereas synthesis of action and receptive modes will facilitate the development of a participatory relationship.

Operationally, changes in state of consciousness representative of functioning of the receptive mode will elicit resolution of death confrontation anxiety and acceptance, in terms of low scores on the Death Anxiety Scale. Conversely, variations in state of consciousness indicative of dominance of the action mode will demonstrate unresolved anxiety regarding personal death, in terms of high scores on the Death

Experiential Criteria for Detecting an Altered State of Consciousness

Exteroception (sensing the external world)
- Alteration in various sensory characteristics of the perceived world—glowing lights at the edges of things, accentuation of attenuation of visual depth

Interoception (sensing the body)
- Alteration in perceived body image—shape changes, size changes
- Alteration in detectable physiological parameters—accelerated or retarded heart rate, respiration rate, muscle tonus, tremor
- Perception of special bodily feelings not normally present—feelings of energy in the body, generally or specially localized, change in quality of energy flow in the body, such as intensity, focus vs diffuseness

Input processing (seeing meaningful stimuli)
- Sensory excitement, involvement, sensuality
- Enhanced or decreased sensory intensity
- Alterations of dominance-interaction hierarchies of various sensory modalities
- Illusion, hallucination, perception of patterns and things otherwise known to be unlikely to actually exist in the environment

Emotions
- Alteration in emotional response to stimuli—overreacting, underreacting, not reacting, reacting in an entirely different way
- Extreme intensity of emotion

Memory
- Changes in continuity of memory over time—either an implicit feeling that continuity is present or an explicit checking of memory that shows current experience to be consistent with continuous memories leading up to the present, with gaps suggesting an altered state.
- Details: Checking fine details of perceived environment (external or internal) against memories of how they should be to detect incongruities

Time sense
- Unusual feeling of here-and-now
- Feelings of great slowing or speeding of time
- Feeling of orientation to past and/or future, regardless of relation to present
- Feeling of archetypal quality to time; atemporal experience

Sense of identity
- Sense of unusual identity, role
- Alienation, detachment, perspective on usual identity or identities

Evaluation and cognitive processing
- Alteration in rate of thought
- Alteration in quality of thought—sharpness, clarity
- Alteration of rules of logic (compared with memory of usual rules)

Motor output
- Alteration in amount or quality of self-control
- Change in the active body image, the way the body feels when in motion, the proprioceptive feedback signals that guide actions
- Restlessness, tremor, partial paralysis

Interaction with the environment
- Performance of unusual or impossible behaviors—incongruity of consequences resulting from behavioral outputs, either immediate or long term
- Change in anticipation of consequences of specific behaviors—either prebehavioral or learned from observation of consequences
- Change in voice quality
- Change in feeling of degree of orientation to or contact with immediate environment
- Change in involvement with a detachment from environment
- Change in communications with others—incongruities or altered patterns, consensual validation or lack of it

*From Tart.[X(p12)]

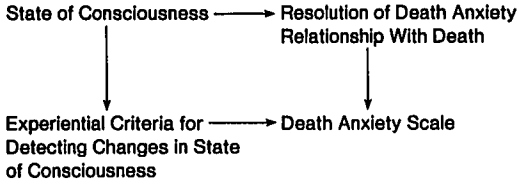

Fig. 1 Relationship between concepts.

Anxiety Scale. The relationship between the concepts in this model is unidirectional and is represented in Figure 1.

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A major strength of this model is its focus on the personal responsibility of patients for resolving their own death anxiety and accepting the inevitability of death. One weakness inherent in the model involves the detection of changes in state of consciousness. Evaluation of small changes or changes within a single category in terms of meaning or significance may prove difficult, particularly since a value judgment is involved. Interrater reliability may be difficult to obtain. Furthermore, the model as presented is limited to hospitalized patients, although the possibility for expansion exists.

The theoretic model that has been developed can describe, explain, and predict the progression of hospitalized patients through the stages of the dying process and the development of a participatory relationship with death. It can therefore be used as a guide for nursing research and nursing practice, as the discipline evolves toward increasing complexity, growth, and knowledge.

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