

NURSING AS A DESIGN PROCESS

EFFIE S. HANCHETT, R.N., Ph.D.

INTRODUCTION

Professional nursing is a complex activity which deals with the level of health or well-being of individuals or groups of individuals. Nurses may focus on different client groups and/or types of client needs. However, in order to provide safe, adequate care, the nurse must take into consideration all the health needs of her client, and of those persons affected both by the client's needs and by the intervention intended to assist the client to meet these needs.

THE HUMAN SYSTEM:

FOCUS OF NURSING INTERVENTION

Traditionally, nursing has dealt with a person or a group of persons as the focus of its interventions. In some instances, however, the individual, families, or communities, provide the major focus of nursing interventions. However, the individual has traditionally been the smallest unit of consideration for nursing care. Different subsystems of the individual, influencing and influenced by the total person's level of wellness, may require attention, but they remain within the framework of a *part within the total system* under consideration.

Therefore, from a general systems approach, the focal systems of nursing intervention may be considered to be:

- A. the individual
- B. the family
- C. the community.

Any one of these may be chosen as a target for nursing assessment and intervention, the others remaining as background considerations. The nurse in the intensive care unit may focus on individuals as the unit of her interventions. The patients' families use less of her attention in the acute phase of the individual's illness. The family forces which influences and will influence the individual's level of health and ability to recover are considered in her interventions, but remain less salient during a period of immediate survival crisis. Similarly, the community forces which influenced and will influence the individual's and the family's response to, and growth through, the illness episode are considered after the immediate crisis has passed.

THE PURPOSE FOR CONSIDERING THE SYSTEM:

THE GOALS OF NURSING INTERVENTION

A systems approach, however, requires a reason for selecting the system for consideration (Hanchett, 1979, pp. 14-15). The goal of nursing is that of increasing the level of health of human systems.

The reason for a specific nursing intervention is defined by the health need presented by the human client system. Health, or growth needs, of human systems can be considered according to Maslow's hierarchy of needs (Maslow, 1943). These needs are not mutually exclusive, rather they are in interaction with each other, and include:

- 1) survival
- 2) safety
- 3) self-esteem
- 4) belonging and love
- 5) self-actualization

Nursing as a professional activity deals with these needs according to the priorities presented by the patient or client of its services.

THE MATRIX:

THE FOCUS AND GOALS OF NURSING INTERVENTIONS

Nurses focus on different levels or "sizes" of human systems, and different levels or types of needs presented by these systems. Therefore, nursing interventions are more appropriately considered from a matrix point of view than by a single, linear concept. It may be because of this that our problems in defining and interpreting nursing activities have been so difficult. There are a variety of both system sizes and system needs which nurses deal with. All of them are valid and all are delineated by both the level of human system considered and the needs presented by the specific individual or group under consideration.

The matrix, or focus of nursing intervention, then, can be considered to be as follows:

Figure 1. Matrix of Nursing Intervention: The Basis for the Nursing Design Process.

Human System Size	Needs Presented for Assessment and Intervention				
	1. Survival	2. Safety	3. Self-Esteem	4. Belonging and Love	5. Self-Actualization
A. Individual					
B. Family					
C. Community					

Any individual nurse may select one or more areas of this matrix as her own area of specialization, and seek out both educational and work settings in which she is most likely to be dealing with certain human systems with certain general areas of need.

The nurse in an intensive, acute care setting is likely to have individuals with survival needs as her primary focus. The nurse in a home health care agency tends to focus on individuals and families with less acute survival needs. The nurse in administration of a community health agency or involved with political action is most likely to consider communities with different levels of needs. She may focus on survival level needs, such as industrial hazards or she may choose to work toward the establishment of day care programs designed to facilitate the self-actualization of children and their families.

*FLESHING OUT THE MATRIX:
INTERACTIONS BETWEEN SPECIFIC LEVELS
OF HUMAN SYSTEMS*

In any systems approach, as in reality, the interactions between the individual “parts” or “components” of a system are as important as the components themselves. So too, in nursing, the interactions between the various levels of human systems which have been selected for attention are as important as the “parts” of the system itself. Interactions between individuals and their families, interactions between families and their community, and interactions between individuals and communities are relevant to the well-being of each of these systems, and therefore appropriate considerations for professional nursing activity. A more complete matrix of nursing interventions would then appear as shown in Figure 2.

Figure 2. Matrix of Nursing Activities, Including Interactions Between Levels of Human Systems Sizes.

Human System Size and Interactions	Needs Presented for Assessment and Intervention				
	1. Survival	2. Safety	3. Self- Esteem	4. Belonging & Love	5. Self- Actualization
A. Individual					
A-B Individual- Family Interaction					
B. Family					
B-C Family Community Interaction					
C. Community					
A-C Individual- Community Interaction					

Examples of nursing interventions aimed at specific interactions within the matrix are as follows:

INDIVIDUAL-FAMILY INTERACTION (A-B).

The need to maintain the integrity of the individual-family interaction is dealt with by nurses in acute care settings according to anticipated and presented health needs.

Belonging and Love (4). The need for continued relationship between parent and child is recognized by nurses working in pediatrics units. This is especially important during those development stages of the child when separation from the parent is most detrimental to the child. This need is considered both in terms of the child in the institution, and the siblings who are at home, in order to assist the parent in planning visiting time.

Self-actualization (5). The need for growth of the relationship between husband and wife via the shared experience of childbirth was recognized by nurses who worked toward gaining the acceptance to the husband's presence in the delivery room. However, these nurses often say "It depends." It depends upon the level of health of each of the individuals, the level of health of their relationship, and an assessment of the individual situation presented by each couple and the anticipated difficulty of the birth.

FAMILY-COMMUNITY INTERACTIONS (B-C).

The relationship between family and community is considered and facilitated by nurses according to the following needs:

Survival needs of families (1). Referrals for welfare assistance, food stamps or other basic formal community services are made.

Self-esteem needs of families (2). Parents are assisted to resist or to change negative playground cultures which evaluate children, parents, and parenting according to specific developmental tasks rather than the unique qualities and achievements of each child.

Need for families to belong (4). Families are helped to integrate into the community by identifying resources and groups with interests similar to their own.

INDIVIDUAL-COMMUNITY RELATIONSHIP (A-C)

Individual-community relationships are a focus for those nursing interventions which deal with a variety of needs such as:

Survival and safety (1-2). The establishment of a program of meals on wheels provides for the survival and safety needs of the individual, and for the self-esteem and altruistic needs of the community.

Safety (2). Community-level programs regarding communicable disease control are aimed to prevent the individual community

member from contracting the disease, and to prevent the community from being a source of disease for its members.

Belonging (4). Identifying retired people within a community who wish to volunteer in a day-care program provides for the older people's needs to belong (4) and to be of service to others (5), as well as providing a mechanism for giving children a positive image of aging. The children also derive a sense of the history of their community through the older people's stories and experience.

THE DESIGN:

PATTERNING SPECIFIC INTERVENTIONS FOR SPECIFIC SYSTEMS

In order to appropriately meet the human needs presented for each nursing intervention, the professional nurse must (Mauksch, 1972):

- 1) take all needs (or problems, or nursing diagnoses) into consideration
- 2) determine the relative priorities for each
- 3) identify the resources available to meet these needs
- 4) design a means of intervention which includes as many of these components as possible, according to their relative priorities.

EXAMPLES OF THE DESIGN PROCESS

1. The Patient with an Acute Survival Need.

The design of nursing activities for the patient in the emergency room who requires immediate resuscitation includes many levels of system size and types of real and/or potential need.

Individual survival need would present the first priority. Specific measures should be those required for resuscitation, monitoring the effects of resuscitation, and anticipating needs for revised resuscitation measures.

Family: Self-esteem needs. A rapid assessment of the family's need for, and the presence of, available support systems within their own group, and a "mini-assessment" of the family's need for immediate outside support would be done. Respect for the family's need for ongoing information, regarding the success of the resuscitation measures, would result in a rapid assignment of someone to monitor and provide these services as necessary.

Individual-family interaction: safety. Maintenance of the integrity of the individual-family "relatedness" would be facilitated by keeping the family informed of the patient's progress, as above, and by allowing the family to be with the patient as soon as possible after the resuscitation measures.

2. The Patient with a Colostomy

The elements of design considered in doing a dressing change for a patient with a colostomy include many factors. The first priority

in changing the dressing of a patient with a colostomy falls within the area of safety and includes factors such as assessing the level of healing by cleaning the area, and promoting comfort by cleaning and removing the soiled dressing.

The next level, and of equal or greater valence, would be those components designed to promote "healing" of the patient's damaged self-esteem and body image caused by the colostomy. These components of design include removing the soiled dressing, touching and non-verbally communicating acceptance of the patient, and assessing the patient's reaction to the dressing change and to the colostomy.

Promotion and protection of the patient-family interaction would require consideration of measures designed to preserve or promote the patient's self-esteem, and consequent ability to interact with his family, soliciting information regarding the family's response to the effects of the surgery, facilitating and reinforcing the family's positive responses to the patient; and providing information to reduce the family members' negative responses to the patient.

The components of the activity designed to deal with the family would include soliciting information from the patient about the individual within the family. This would depend upon the patient's own level of need and ability to focus off the immediate trauma.

Information regarding community support systems for the family during the period immediately following the patient's hospitalization is designed to facilitate family-community interaction appropriate to the family's need.

Providing information to the patient or family regarding sources of care for the patient during the period following the hospitalization (V.O.N., etc.) and during hospitalization and post-hospitalization periods (ostomy club) are designed to the level of both individual need, and individual-community interaction.

3. The Patient with Terminal Illness

A bath for a patient with an advanced terminal illness provides another example of the complexities of the nursing design process.

The patient's safety from additional infection, trauma, and pain are considered along with methods for minimizing the amount of effort he must expend for simple functions for the maintenance of life. The relationship between the patient and his family may, however, provide the priority of the highest valence — and the major developmental task for patient and family alike might be that of re-establishing, or clarifying their relationships with each other (Hine, 1977). The actual level of priorities of each of these factors will depend upon the needs of the specific patient and family. The impact of the impending death upon the family is certainly considered by

the nurse, who will, once again, assess their own strengths and support systems, and intervene if she and they feel that these are not sufficient to deal with their needs at the time. Death, as a developmental crisis, provides an opportunity to resolve many previously unresolved issues for the patient, his/her family, and their relationship with each other; and, while difficult, may be the source of dissatisfaction or satisfaction and future growth depending upon the use which is made of this opportunity. The intimacy of touch that is provided by the bathing process often allows for greater openness of verbal communication with the conscious patient and may provide additional pressure toward verbalization of his concerns regarding significant, unresolved issues.

THE THIRD DIMENSION: TIME

In order to consider the elements of design needed to facilitate the level of wellness of the person(s) under consideration, the nurse must take in to account the element of time. What forces from the past have been carried into the present and are part of the individual, family or community "now"? What future growth needs and resources must be considered to intervene appropriately in the present?

For example, what needs and resources of the individual with an amputation are relevant to that person's current values and patterns of activity? How will these affect his current and future concept of himself and his ability to carry a positive self-concept into future dealings with his family and community? What does he see as the things he would most like to achieve in life? What care is needed to maintain his own internal and external resources so that he can meet those developmental needs? Extending the matrix to identify growth needs and resources from the past into the present and the future is equally necessary to design appropriate nursing care.

SUMMARY AND SUGGESTIONS FOR FUTURE USE

Each specific nursing intervention is an intricate design process based upon the individual's present and future levels of wellness, weighted by the most immediate need presented, and tailored to meet the valence of each level of need as expressed by the individual, family or community for whom the intervention is carried out (Alexander, 1964).

The value of professional nursing, I believe, can only be documented as we become more aware of this design process. Nursing process and problem-oriented approaches can only work for documentation, audit and nursing investigation, if they are somehow brought into congruence with the complexities of professional practice. The value of the problem-oriented approach for nursing may be

precisely that the components of design are made consciously available to the nurse (Gane, 1972).

It would be very time consuming to record every component of design for every nursing intervention performed. Rather, an initial pattern of need might be determined at the initiation of contact with the client. At this time a "goal pattern" might be projected along with the anticipated date for its achievement. The original pattern of need could then be re-evaluated periodically. The changes in levels of need presented would both update the accuracy of the initial assessment, and document the success of the nursing interventions performed (Hanchett & Johnson, 1967).

RESUME

Les activités professionnelles de nursing sont un processus de conception complexe dans lequel il faut tenir compte (A) de la personne, (B) de la famille et (C) de la collectivité ainsi que du niveau des soins selon le(s) système(s) étudié(s). Le système étudié et son interaction avec d'autres systèmes représentent un aspect de la matrice conceptuelle (Fig. 2). Le niveau des besoins (1) survie, (2) sûreté (3) respect de soi, (4) sentiment d'appartenance et amour et (5) réalisation de soi présente dans le second élément de la matrice. Enfin la dimension temps, les besoins du client dans le contexte présent et ses besoins futurs anticipés doivent être considérés dans le cadre du processus de conception complexe qu'est l'activité professionnelle de l'infirmière. Plusieurs exemples des éléments considérés au cours de différentes interventions infirmières sont donnés.

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