The Betty Neuman Systems Model applied to practice: a client with multiple sclerosis

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INTRODUCTION

The 1980s have been characterized by the acceptance of the significance of theories and models for nursing (Fawcett 1989, Meleis 1985) Such conceptualization help to clearly define the domain of nursing by differentiating it from the domain of medicine and other health care disciplines They provide coherent and systematic frameworks which can guide and direct nursing assessment, planning and intervention The language of models and theories, the definitions of terms and the descriptions of concepts, provide grounds for communication among nurses and are essential for nursing research (Fawcett 1989, Jacox 1974) The conceptual-theoretical system of knowledge — represented by models and theories — is a vehicle of professionalism (Gruending 1985), especially for those professional attributes of accountability and autonomy (Fuller 1978, McKay 1969)

The enormous variety of nursing phenomena and the situations in which they occur demand some flexibility in the choice of nursing theories or models as the situation dictates (McGee 1984) This paper describes some salient features of nursing clients with multiple sclerosis (MS), demonstrates the goodness-of-fit of the Betty Neuman Systems Model (Neuman 1982) to the care of these clients, and specifically illustrates the application of this model to a case study of a client with MS A modified assessment tool, based on Neuman’s tool, is utilized and is shown to apply to acute care medical patients

SALIENT FEATURES OF MULTIPLE SCLEROSIS

Multiple sclerosis is a generally non-fatal, chronic and often progressive disease of the central nervous system which occurs primarily between the ages of 20 and 40 years The uncertainty related to the course of the disease and the actual or potential disruption of various motor, sensory or cognitive functions, can have complex and unpredictable affects on every aspect of a person’s life The nurse caring for the client with MS must have a guide or framework for carrying out the nursing process in situations with complex and interactive variables In MS, as in many chronic unpredictable conditions, the meanings or interpretations
that the client gives to the disease and its many physical and psychosocial effects, are of critical importance in relation to the client’s adjustment (Brooks & Matson 1982, Duval 1984). Clients with chronic disease should ideally manage their own lives and should be co-creators with nurses and others of plans to help them maintain, regain, or attain optimum functioning (McEwen et al 1983). A nursing framework that is suitable for working with clients with MS must accommodate for the importance of perception and be compatible with the collaborative approach between the client and caregiver.

MS is a disease with the possibility of remissions and exacerbations and an overall decrease in functional ability as time progresses. A useful nursing framework should accommodate for the need to prevent complications, treat acute problems, and rehabilitate the client. Finally, there is so far no proven medical treatment to halt or slow the progress of this disease. This condition requires management of specific responses of the client to improve his functioning in daily life. An avoidance of the ‘sick role’ for these clients is essential. A nursing framework which is not dependent on the medical model or the concept of illness is essential for working with MS clients.

THE FIT OF THE NEUMAN MODEL

The Betty Neuman Systems Model is ideally suited for guiding nursing practice in relation to the client with MS. The model’s open-system characteristics, its incorporation of the time variable, and its consideration of five major client variables accommodate the complexity and unpredictability of situations encountered by the MS client. The model’s major focus on perception is extremely helpful for dealing with various clients’ feelings, attitudes, and beliefs that may affect the course of the disease and the appropriateness of management goals and modalities. The three levels of prevention in this model—primary, secondary, and tertiary—certainly fit the various settings in which the client may encounter a nurse. The model’s non-reliance on the medical model or the concept of illness is another reason for its adoption in the case of a client with MS.

The following section presents a brief summary of the major concepts and assumptions of the model. The model is then applied to a case study of a young woman with MS.

THE NEUMAN SYSTEMS MODEL

This section describes the Neuman (1982) Model in terms of the four meta-paradigms of nursing (Fawcett 1989) person, environment, health, and nursing. For a diagrammatic conceptualization of Neuman’s model see Figure 1.

Person

Neuman (1982) views the client (an individual or collective entity) as an open system. The individual client is a dynamic composite of the interrelationship of five variables: physiological, psychological, sociocultural, spiritual, and developmental (Capers et al 1985). To meet personal needs, the client interacts with the environment and affects it and
is affected by it. Each individual has characteristics or responses that fall within a common range and sets of strengths or specific responses that set him apart as unique.

The system of the client can be portrayed figuratively (Figure 2) by a core of basic structure and energy resources surrounded by three hypothetical concentric circles representing boundaries (Neuman 1982). The closest boundary, the lines of resistance, protects the core and consists of internal defensive processes such as the immune response and physiological homeostatic mechanisms. The next boundary is the normal line of defence, or dynamic equilibrium, and represents what the person has become over time. It includes such aspects as intelligence, attitudes, and problem solving and coping abilities. The outermost boundary is the flexible line of defence, a protective buffer for the normal line of defence. It has an accordion-like action which changes in a relatively short time dependent on such factors as amount of sleep, level of nutrition, and the quality and quantity of stress.

A person is constantly subject to stressors from within his own system and from the environment which can cause disequilibrium, situational or maturational crises, disease or death (Neuman 1982). Reaction to stressors is determined in part by natural and learned resistance which is manifested by the strength of the core and the various lines. Factors which influence the reaction to stressors are intra-, inter- or extra-personal in nature. The quality and quantity of an individual’s reaction to stressors is determined by the interrelationships of the five variables. Of critical importance is the person’s perception of a stressor since it can affect the person’s resistance and response to the stressor.

The number, timing and intensity of stressors also affect a person’s resistance to a stressor.

Environment

Neuman states that the environment is ‘that viable arena which has relevance to the life span of an organism’ (Neuman 1982) She also views it as all factors affecting or affected by a person. Neuman contends that there is an internal and external environment, a point which confuses many as she does not clearly delineate the boundaries between person and environment. Although not stating it explicitly, Neuman (1974, 1982) suggests that the environment is the source of stressors and provides resources for managing these stressors. Stressors are such things as microorganisms, a ruptured aneurysm, radiation, excessive noise, and interpersonal conflict. Resources are entities such as a functioning immunological system, good coping skills, education, strong family support, and a community health centre. Stressors can be classified as either beneficial or noxious, depending on their nature, timing, degree and potential for either ultimate positive or negative change in the person. Neuman places more emphasis on stressors than any other aspect of the environment, as is highlighted in Figure 1.

Health

Neuman (1982) states that health or wellness — she uses the terms synonymously — is the condition in which the flexible line of defence has prevented penetration of the normal line of defence and all parts and subparts are in harmony (steady-state) with the whole of the person. Optimum wellness occurs when all needs are met. Conversely, illness — or variance from wellness, as she terms it — is a state of insufficiency or instability, a state in which disrupting needs are yet to be satisfied and the normal line of defence is penetrated (Neuman 1982). Neuman implies, without explicitly stating, that health, in the broad sense, is a continuum with wellness at one end and extreme variances from wellness (and ultimately death) at the other end. Neuman (1982) uses the term reconstitution to describe the events which occur following the impact of a stressor. In the process of reconstruction, a person can progress beyond his normal line of defence to a higher than usual state of wellness or below his usual state of wellness.

Nursing

Nursing is defined by Neuman as a ‘unique profession that is concerned with all variables affecting an individual’s responses to stressors’ (Neuman 1974). The main concern of
Table 1 Summary of Betty Neuman's nursing process steps

A Nursing diagnosis
1 Data base and assessment
   — identification, classification and evaluation of
     interactions among five client variables
   — identification of stressors and resources in the
     intra- inter- and extra-personal areas
   — identification and differentiation of client and
     caregiver perceptions
   — attempt to resolve perceptual differences
2 Actual or potential variances from wellness
   (These are what most other theorists call 'nursing diagnoses')

B Nursing goals
1 Expected outcomes, i.e. specific desirable behavioural
   responses to deal with the actual or potential variances
   from wellness (decided by client and caregiver in
   collaboration)
2 Planned interventions, i.e. specific actions of client, care-
   giver or others to effect expected outcomes

C Nursing outcomes
1 Actual interventions, i.e. interventions actually carried
   out
2 Evaluation and goal reformulation
   — analysis of specific client responses
   — determination of attainment of expected outcomes
   — if incomplete attainment, determination of cause of
     non-attainment
   — goal reformulation as needed

Nursing is the total person and the goal of nursing is to
maintain, regain or attain client system stability. Neuman
suggests that this stability or maximum level of wellness
can be attained 'by purposeful interventions aimed at
reduction of stress factors and adverse conditions which
either affect or could affect optimal functioning in a given
client situation' (Neuman 1982)

Nursing process
Neuman's (1982) process contains three basic parts:
nursing diagnosis, nursing goals, and nursing outcomes.
Neuman stresses the importance of identifying client and
caregiver perceptions and collaborating between client and
caregiver at all stages of the process. Table 1 summarizes
Neuman's nursing process steps.

Levels of prevention
Neuman (1982) states that intervention can begin at any
point at which the stressor is suspected or detected and
identified. Based on the time frame associated with the
stressor impact on the person, Neuman has developed three
levels of prevention. Primary prevention is selected when a
stressor is suspected but no reaction has taken place.
Intervention strategies include education, desensitization
against risks, avoidance of hazards, and strengthening
resistance to risks. Secondary prevention is appropriate
when a reaction to a stressor has already occurred. At this
level the caregiver prioritizes the client's needs and carries
out actions aimed at stabilizing the system by conserving
client energy or purposefully manipulating stressors or
reaction to stressors. Tertiary prevention is used after some
interventions at the secondary level prevention have been
instituted and some degree of reconstitution has occurred.
Tertiary level interventions include increasing motivation,
modifying maladaptive behaviour, orienting to reality, or
re-education.

APPLICATION OF THE NEUMAN MODEL

Client profile
Miss T is a 22-year-old third-year university student who
is engaged to be married but plans to finish her degree in
physical education first. She has been in excellent health
until recently. She was hospitalized for investigation of
the third episode in a period of 5 months of weakness and
numbness in her legs. During her admission neurological
assessment, it was noted that she had decreased motor co-
ordination on her right side, slight lack of equilibrium, some
mild weakness in both legs, and nystagmus. She reported
'seeing double', some numbness of her right legs, and some
urinary urgency and frequency. She displayed signs of mild
anxiety. She reported that she had been to the doctor
several times in the past 2 years because of dizziness,
excessive fatigue and several minor musculoskeletal com-
plaints. About 6 months ago her physician suggested that
there was nothing organically wrong and that she was
experiencing a stress reaction. Counselling was advised but
she did not follow through with the doctor's suggestion.

At the start of this case study, Miss T has been in the
hospital for 8 days and had had blood, urine and cerebro-
spinal fluid tests, skull and spinal X-rays, computerized axial
tomography and magnetic resonance imaging scans, an
electroencephalogram, and visual and auditory evoked
potentials. All of the investigations were normal except for
her cerebrospinal fluid tests which revealed elevated total
protein, elevated gamma globulin and oligoclonal bands.
The neurologist informed her that these results were
highly suggestive of MS.
Betty Neuman Systems Model

Assessment tool

The following tool was used to gather data about Miss T by the nurse. Based on Neuman's (1982) tool, it has been adapted by the author and her colleagues to more readily fit an acute care medical setting. There are two areas of change: Section A, the intake summary, has been expanded to include data about diagnosis, admission and discharge, medication and other pertinent facts. Section D1a, the physiological section of intra-personal factors, has been expanded to include a system review and a two item functional review. These additions constitute a minor adaptation of Neuman's instrument and in no way affect the application of the model itself.

A Intake summary
   1 Name Miss T
   2 Age Female
   3 Marital status Single
   4 Medical diagnosis Probable MS
   5 Date of admission to hospital 15 February
   6 Date of discharge from hospital
   7 Date of assessment(s) 15–23 February
   8 Other pertinent facts
   9 Medications

B Stressors (as perceived by client)
   1 What do you consider your major problem, stress area or areas of concern?
   2 How do present circumstances differ from your usual pattern of living?
   3 Have you ever experienced a similar problem? If so, what was the problem and how did you handle it? Were you successful?
   4 What do you anticipate for yourself in the future as a consequence of your present situation?
   5 What are you doing and what can you do to help yourself?
   6 What do you expect caregivers, family, friends or others to do for you?

C Stressors (as perceived by the nurse)
The same six questions, as above, should be answered, but from the standpoint of how the nurse evaluates the client, the client's major problem, pattern of living, present and past coping strategies, and expectations for the future and of others.

D Summary of impressions
   1 Intrapersonal factors
   a. Physiological

System review
   Neurological
   Gastrointestinal
   Respiratory
   Genito-urinary
   Musculoskeletal
   Cardiovascular
   Dermatological
   Endocrine-reproductive

Functional status
   Activities of daily living
   Rest and sleep
   b. Psychological
   c. Sociocultural
   d. Developmental
   e. Spiritual

E Formulation of actual or potential variances from wellness (nursing diagnoses)

Assessment findings

A Intake summary
   1 Name Miss T
   2 Age Female
   3 Marital status Single
   4 Medical diagnosis Probable MS
   5 Date of admission to hospital 15 February
   6 Date of discharge (still hospitalized)
   7 Date of assessment(s) 15–23 February
   8 Other pertinent facts
   9 Medications Multivitamins and birth control pills

B Client's perception of stressors
Miss T's major concern was the meaning that the diagnosis of MS has in relation to her plans for finishing her degree, a career in physical education, marriage, and a family. Her immediate area of stress was how she was going to make up classes and assignments. She had always been very physically active and was proud that she was strong, physically fit and as 'healthy as a horse.' She had a recurrent mental image of the only person she knows with MS, an incontinent, partially blind wheelchair-bound man. She declared 'I'm not going to give into this! I will be better if I just get back to my usual regime of physical activity and my well balanced diet.' She expected the neurologist to
discuss aspects of neuropathology and possible treatment with her. She thought the nurses could help her by answering some questions about MS, but the nurses seem so busy, I hate to bother them.’ She said ‘My parents are really upset by this I’ve got to put on a brave face’ and ‘My fiancé is such a support for me, I don’t know what I would do without him’

C. Nurse’s perceptions of stressors
Miss T’s major stressor was the profound threat that this recent altered functioning and diagnosis of probable MS has had to her image of herself as physically fit, strong and possessing mastery over the functioning of her body. A secondary, but important stressor was the threat to present and future roles as student, career woman, wife and mother. The stressor of the inflammatory process in her nervous system was important but, beyond the use of corticosteroids, there is no known direct way to influence this process, more than temporarily.

She had never had a similar crisis before and her coping style at the time of the case study was a combination of information seeking, intellectualizing, and some denial of the seriousness of the diagnosis and her need for emotional support. She constantly asked several different nurses the same questions. Her affect varied between cheerfulness and seeming unconcern and some withdrawal and agitation. She was sleeping poorly, but resisted attempts by the nurses to discuss her concerns. She was very anxious to get back to her apartment so she would have more control over her life. She relied almost exclusively on her fiancé for emotional support and seemed to expect very little of any of the health professionals, friends or her parents. Although Miss T’s strengths of intelligence, knowledge (related to diet, exercise and fitness), and self-reliance would certainly be assets in dealing with the stressors, it appeared that if she did not acknowledge her need for emotional support and exploration of her feelings with appropriate resource people, she might not be able to handle the crisis.

D. Summary of impressions (only significant findings are noted here)

1. Intrapersonal factors
   a. Physiological
      i. Neurological — left eye lagging on abduction, reports intermittent diplopia, horizontal nystagmus with with slight right and left lateral gaze, inability to tandem walk, falls to right during Romberg test, slight slowness and clumsiness of right arm during rapidly alternating movements, difficulty with moving right heel down left shin, slight weakness in hip flexors
      ii. Gastrointestinal — none
   b. Respiratory — respiratory rate 28, frequent sighing, non-smoker
   c. Genito-urinary — reports urinary frequency intermittently over past year
   d. Musculoskeletal — well-developed muscles and except for above noted abnormalities exhibits above average strength in most muscle groups of arms and legs
   e. Cardiovascular — apical rate 92
   f. Dermatological — none
   g. Endocrine-reproductive — on birth control pills for 3 years, yearly normal pap smears

2. Functional status
   a. Activities of daily living — reports intermittent mild to severe fatigue over 3 years, worse in past year, has had to cut out extracurricular sports (volleyball and tennis) this term. Managing with effort to meet her academic requirements. Difficulty in doing her share of household chores
   b. Rest and sleep — unable to rest and sleep adequately in hospital environment, walks around ward and hospital during day, has difficulty sitting still or resting, sleeps 6–7 hours at night with frequent waking, refuses oxazepam ordered as sedative
   c. Psychological
      i. Mood labile (see stressors as perceived by nurse), would not talk in any depth about her feelings about the diagnosis, was unhappy that she could not maintain her usual diet (high fibre, low animal fat, avoidance of refined carbohydrates) in the hospital, spent a lot of time with her fiancé and was frequently seen quietly crying while in discussion with him
   d. Sociocultural
      i. Is a member of mainstream white anglosaxon cultural group, strong belief system which values education, self-reliance, working hard, and physical strength and fitness, values women having equal status with men in all areas
   e. Developmental
      i. Has been successfully engaged in meeting developmental needs appropriate to a young adult, i.e. preparing for a career and marriage
   f. Spiritual
      i. Considers herself a Christian, but has not regularly attended church since she left home for university, stated she talks to her fiancé and others about religious and ethical beliefs but does not feel comfortable with organized religion

Interpersonal factors
Miss T is an only child. Her parents are healthy and live 50 miles away. She feels respect and affection for
her parents, but considers herself to be largely independent of them. She and her fiancé are close and mutually supportive. They have lived together for a year and have several friends in common, mostly other couples. She has two close women friends, but her contact with them has decreased since her engagement a year ago. Her fiancé has stated to several nurses that since Miss T’s hospitalization he has felt a lot of stress, has had headaches and abdominal pain, and has had difficulty in keeping up with his graduate school work in biomedical engineering. Miss T has not relied on nursing or medical staff for more than straight-forward discussion of ‘facts’ related to diagnostic tests and to MS.

3 Extrapersonal factors
Miss T is on a scholarship which provides for tuition, books, supplies and a partial housing allowance. She uses student loans and summer employment to provide money for housing, clothes, food and other expenses. Medical insurance is covered by student fees at her university so hospitalization and doctors’ visits are covered. The university has an excellent student health service which includes provision for counseling. There is a large and active MS Society in Miss T’s community which holds nurse-led self-help groups for the newly diagnosed.

E Actual or potential variances from wellness (nursing diagnoses)
1 Disturbance in self-concept due to mild decrease in muscle strength, coordination and overall stamina, and to recent medical diagnosis of MS
2 Potential for ineffective coping with and adjustment to diagnosis of MS and altered physical functioning due to (i) fear of dependence, loss of autonomy, lack of fulfilment of academic occupational and personal/social goals, and (ii) her exhausting the emotional resources of her fiancé
3 Knowledge deficit related to lack of experience and facts related to MS, including its signs and symptoms, prognosis, course, role of attitudes and emotions, management and resources
4 Mild alteration in mobility, coordination and stamina due to MS.

Short-term nursing goals
The nurse shared her diagnoses with Miss T and in general Miss T accepted them, although she did not feel comfortable with ‘the potential for ineffective coping’ despite being willing to explore the possibility Miss T and the nurse negotiated some short-term goals. The following section outlines the expected outcomes and planned interventions that comprised nursing goals to address each of the four nursing diagnoses.

1 Related to diagnosis 1
A Expected outcomes
1 Miss T will verbalize an acceptance of the idea that she may have to redefine the parameters of her highly valued self-concepts of strength, fitness, autonomy (within 4 days)
2 Miss T will verbalize a continued motivation, within the limitations of her strength and energy, to maintain activities which will maintain her present high level of fitness and general strength (ongoing).
B Planned interventions (combined primary and secondary level prevention)
1 Daily sessions (of at least 30 minutes) with the nurse in a quiet private room to explore Miss T’s feelings about the diagnosis, her symptoms, the meanings the disease has for her and possible modifications of her expectations and activities
2 Reinforcement by the nurses of Miss T’s appropriate use of the nursing staff for emotional support and explorations of feelings and attitudes
3 Exploration of acceptability to Miss T of a referral to the MS Society — to talk to another person with MS on the telephone, in person, or as a member of a group for the newly diagnosed.

2 Related to diagnosis 2
A Expected outcomes
1 Miss T will continue to discuss openly that there is a good possibility of ineffective coping with the diagnosis and altered functioning if she does not deal with her fear of loss of her autonomy and lack of fulfillment of academic, occupational and personal goals (ongoing)
2 Miss T will list other potential resources to supply emotional support and temporary assistance with domestic chores (shopping, cooking, cleaning) and academic requirements upon her discharge from the hospital (3 days)
3 Miss T will identify alternate short-term adjustments to her course load and extra-curricular activities (3 days)
B Planned interventions (primary level prevention)
1 Daily sessions (concurrent with 1B1 above) to discuss fears, alternative resources and short-term coping strategies.
Referral to community health nurse upon discharge to follow-up on discussion of fears, resources and coping strategies

If required, liaison by nurse or Miss T with academic counsellor to explore feasibility of adjustment of academic requirements

Related to diagnosis 3

A
1 Miss T can explain the very basic facts about the pathology of MS, the basis of her own symptoms, the highly variable course of the disease, the importance of attention to emotional health, and any other areas about which she expresses curiosity (by discharge)
2 Miss T verbalizes and demonstrates coping strategies for management of her present problems with fatigue, decreased muscle strength, slight incoordination and intermittent diplopia (4 days or by discharge)
3 Miss T can list reliable and questionable resources for more information about MS and its management

B Planned interventions (combined primary and secondary level prevention)
1 Ongoing informal instruction and answering Miss T’s questions on MS and its management
2 Considering Miss T’s readiness and appropriateness of specific material, provision of information booklets about MS
3 If acceptable referral to the MS Society as a source of reliable information

Related to diagnosis 4

A Expected outcomes
1 Miss T will demonstrate and explain methods to manage her
   a. decreased muscle strength (mostly right leg),
   b. slight incoordination/lack of balance,
   c. fatigue, and
d. intermittent diplopia (By 3 days )

B Planned interventions (examples of primary and secondary level preventions)
1 The nurse will discuss and/or demonstrate management strategies for
   a. decreased muscle strength, e.g. (1) active exercise within limits of fatigue, with periodic rest periods, (2) avoidance of very long and heavy periods of exercise
   b. slight incoordination/lack of balance, e.g. (1) avoidance of hazardous activities requiring good coordination, (2) tub baths instead of showers, (3) avoidance of quick turning, (4) low heeled shoes
   c. fatigue, e.g. (1) pacing and timing of activities to avoid overexertion, (2) daily rest periods, (3) sitting instead of standing when possible
   d. diplopia, e.g. (1) patching of one eye, (2) avoidance of eye muscle strain

Nursing outcomes

The following is a summary of actual interventions, evaluation and goal reformulation after 1 week

Related to diagnosis 1
Two nurses, Mrs B and Miss A, developed a close therapeutic relationship with Miss T. She became much more honest about her feelings, crying openly at times and expressing some anger that such a thing should happen to her. She expressed some grief that she may have to adjust her self-concept to incorporate the new fact of ‘probable MS’. She verbalized that perhaps she will have to focus now on ‘other ways of being strong’. She is cautiously optimistic that she can manage not to push herself too much when she is discharged. She met a 30-year-old woman, Mrs Z (another patient), who has had MS for 5 years and functions very well. They have had many long discussions and Miss T appears to have been very encouraged by this woman’s example (Expected outcomes met)

Related to diagnosis 2
Miss T stated she realizes how difficult her illness has been for her fiancé. She is worried that he may not be able to cope with all of the present and future problems. Seeing his distress has made her feel more frightened and upset. She realizes her difficulty in sharing her feelings with people other than her fiancé. She fears her overdependence on him may backfire onto her if she does not seek other sources of help. Mrs Z has reinforced to Miss T how important it was to her to talk about her anger, fear and sadness with people outside her family and especially with other people with MS. Mrs Z was discharged and she and Miss T have talked on the phone and plan to see each other when Miss T is discharged.

Miss T and her fiancé have decided that when she is discharged he will do major shopping and some cleaning and that they will share cooking responsibilities. It may be necessary to have a cleaning agency in once every 2 weeks. She wants to have some extended discussions with a professional after discharge to discuss important concerns related to her career, marriage and family plans, and will call the student counselling service at the university. She is still quite worried about catching up with her academic work.
but cannot at this time envision what adjustments could
be made. The referral to the community health nurse has
been made and Miss T is happy to have this follow
through.
(Comment expected outcomes 1 and 2 met. The third,
related to identifying adjustments to her academic and
extracurricular activities, cannot be dealt with now.)

3 Related to diagnosis 3 and diagnosis 4
Miss T seems to have a good basic understanding of MS
and her knowledge of anatomy and physiology have
helped her grasp the pathological basis for her own signs
and symptoms. She has read some very basic pamphlets on
MS but states she just cannot read too much more now.
'Some of it is too depressing.' She understands that MS is
highly variable in its course, and that it is impossible to
make any predictions about an individual's prognosis.
She wanted to discuss more about how she felt about the
disease and what she could do to manage the specific
difficulties she was experiencing. She readily accepted the
proposed strategies for dealing with her specific problems.
Her diplopia and fatigue appeared improved, her other
problems persisted but were adequately managed by the
proposed interventions. Miss T knows about the MS
Society and would like to receive some literature from
them. She is not sure she wants any direct contact with the
people in the Society at this time. (Expected outcomes
met.)

Miss T's nurses and the discharge planning nurse are
working on longer term goals that relate to Miss T's
adjustment to having a serious illness with an uncertain
future.

CONCLUSION
The Betty Neuman Systems Model (Neuman 1982) has
been applied to the case of a young woman recently diag-
nosed as having MS. Miss T has experienced several
stressors, the process which initiates inflammation in the
white matter of the central nervous system, the resulting
host of minor but disturbing dysfunctions which interfere
with her daily life, a diagnosis of serious disease, and a
threat to her self-concept, her body image, and to her
present and future roles. Miss T's flexible line of defence
has not been able to prevent the penetration of her normal
line of defence.

An adapted tool suitable for use in acute care medical
settings was applied. Through its use, careful assessment
and evaluation of Miss T's and the caregiver's perceptions
of the various stressors and resources for coping were made
and diagnoses and goals were formulated. Interventions at
the primary and secondary levels of prevention were
planned and implemented. In general, these interventions
aimed to prevent further stressor invasions, to maintain or
strengthen Miss T's resources, to educate her about new
coping strategies, resources, and information about her dis-
ease, and to conserve her energy. Finally, the outcomes of
the plan were evaluated and found to be largely congruent
with the expected outcomes.

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