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## CONFUSION

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Confusion is prevalent in the aging population and yet it is frequently misdiagnosed and thus mismanaged. Because confusion is socially disabling and makes unusually high demands on medical, nursing, and social resources, it is important for health care providers to understand the condition. However, confusion is rarely discussed by itself; rather, it is often viewed only as a symptom of another problem, such as dementia. As Nagley and Dever (1989) point out, "While there may be a shared understanding of confusion among practitioners, a clear and concise definition of confusion for scientific study is lacking" (p. 80). Anything that interrupts or violates the homodynamic equilibrium between man, body, self, and the environment can precipitate confusion. Aged persons are particularly vulnerable to disequilibrium due to losses associated with the aging process and various sociocultural factors that enhance the perception of stress (Hall, 1986).

Wolanin and Phillips (1981) delineated five sources of confusion: 1) compromised brain support; 2) sensoriperceptual problems; 3) disruption in pattern and meaning; 4) alterations in normal physiologic states; and 5) the true dementias. These sources provided the conceptual framework for a study of the knowledge and opinions of nursing home personnel regarding reversible and irreversible types of confusion (Lincoln, 1984). Findings suggested that nursing staff were not very knowledgeable about the irreversible dementias although a positive correlation was noted between amount of formal education of the staff and knowledge of the sources of confusion. As suggested by Wolanin and Phillips (1981), a distinction should be made between confusional states with reversible and irreversible etiologies; with reversible etiologies medical and nursing interventions can often restore normal function. Although conceptually fuzzy, confusional states with reversible etiologies will here be referred to as acute confusional states, or delirium, and those with irreversible etiologies will be referred to as chronic confusional states, or dementias.

The total number of indexed publications related to confusional states in older adults grew from 87 in 1976 to over 600 less than a decade later. However, nurses have begun to study acute and chronic confusional states only recently. Although nursing studies in this area are increasing rapidly, the number of nurse-initiated research projects is still small in comparison to biomedical research efforts that focus on the causes and cures for confusion. Until recently, nursing research questions related to confusion have received significantly less attention and funding than biomedical research efforts, in spite of the tremendous need to develop knowledge about care for the millions of Americans who suffer from acute and chronic confusional disorders (Cross & Gurland, 1986), and the need to delineate effective strategies to promote quality of life for both victims and their families (Buckwalter, Abraham, & Neundorfer, 1988).

Nursing studies related to acute and chronic confusional states cover a wide range of topics with only a few reports addressing the same or similar clinical issues (Maas & Buckwalter, 1991). The high number of isolated studies prohibits an integrated review of nursing research on confusion. The notable exception is studies of caregiver stress/burden among families when persons with chronic confusional states such as Dementia of the Alzheimer's type (DAT) are cared for in the

home. The interaction of cognitive function and environmental characteristics appears to be a central concept in the theoretical orientations that guide research on care of confused patients (Maas & Buckwalter, 1991). The nurse's role in management of confusional states has evolved to the point where nursing now assumes major responsibility for the assessment, diagnosis, and management of nursing problems along the continuum of care from diagnosis to death (Maas & Buckwalter, 1991). Nursing research in these areas must keep pace with the increased clinical responsibilities.

## **State of the Science**

### **Acute Confusional States (Delirium)**

Acute confusional states are characterized by global impairment, and most often caused by pathophysiological changes of organic etiology that can be treated and reversed. They most commonly present as a transient delirium of rapid onset. According to the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSMIII-R) (American Psychiatric Association, 1987), the symptoms of delirium may fluctuate, but commonly include clouding of consciousness, disorientation, memory impairment, and at least two of the following: perceptual disturbance, incoherent speech, disrupted sleep-wakefulness cycle, or psychomotor alterations.

In older persons, delirium or acute confusional syndromes may coexist with or lead to chronic confusional states making diagnosis complex and treatment more difficult. For example, Mullally, Ronthal, Huff, and Geschwind (1989) reported case studies of acute confusional states after infarction of the right middle cerebral artery. They noted that although patient recovery was usually excellent, some patients did not improve, resulting in chronic confusional states. Koponen, Hurri, Stenback, and Riekkinen (1987) discuss the marked predisposing role of structural brain diseases (e.g., primary degenerative and multi-infarct dementias, Parkinsonism) in the development of acute confusional states in older persons. Infections, medication interactions, toxic-metabolic conditions, intracranial lesions, trauma, hypoxia or hypoglycemia secondary to metabolic, cardiovascular or endocrine disorders such as Chronic Obstructive Pulmonary Disease (COPD) or diabetes, social isolation, sensory deprivation, and stress are common causes of confusion (Zisook, 1988). Behaviors often associated with reversible confusional states include: disorientation, inattentiveness, withdrawal, belligerence, impaired communication, and wandering (Hall, 1991; Wolanin & Phillips, 1981; Zarit, 1980). Fawdry and Berry (1989) suggest that agitated and unsafe behaviors represent an attempt by the confused elderly person to maintain self-image and physical and psychological integrity.

Much of the nursing literature in this area is devoted to the management of delirium (Batt, 1989; Hahn, 1981; Weymouth, 1968), the differentiation of delirium from dementia (Gomez & Gomez, 1989), or the prediction and prevention of delirium in the hospitalized elderly (Williams, Campbell, Raynor, Musholt, Mlynarczyk, & Crane, 1985). In general, nursing interventions are designed to reestablish normal physiological status, or assist elderly persons to accurately understand and interpret their environment. For example, Williams, Campbell, Raynor, Mlynarczyk, and Ward (1985) found that the most effective interventions in reducing acute confusional states in elderly patients with hip fractures included those that provided orientation and clarification, corrected sensory deficits, and increased continuity of care. Almost all nursing research related to acute confusional states has focused on patients in acute care, rather than long-term care settings (Adams & Hanson, 1978; Chisolm & Deniston, 1982; Foreman, 1986, 1989; Nagley, 1986; Neelon & Champagne, 1986; Roslaniec & Fitzpatrick, 1979; Williams et al., 1985a, Williams, et al., 1985a, b). These studies and several recent medical investigations suggest the incidence of confusion among the hospitalized elderly is quite high and of great concern in that it compromises recovery and increases morbidity and mortality (Fields, MacKenzie, Charlson, & Sax, 1986; Rockwood, 1989). For example, Foreman (1989) found that 38 percent of 71 non-

surgical elderly patients experienced confusion during their hospitalization. Confused patients were hypernatremic, hypokalemic, hyperglycemic, hypotensive, had elevated blood levels of creatinine and urea nitrogen, received more medications, and had fewer interactions with significant others than non-confused subjects. Other studies suggest that the incidence of acute confusional states in elderly persons undergoing surgery is even higher, ranging from 42 percent to 61 percent (Brannstrom, Gustafson, Norberg, & Winblad, 1989; Gustafson, Berggren, Brannstrom, Bucht, Norberg, Hansson, & Winblad, 1988).

Adequate treatment of delirium presupposes that its underlying causes have been identified. It is essential that clinicians establish whether older persons patient has delirium, dementia, or both, through review of history, clinical features, and a mental-status examination (Lipowski, 1989). Because the management of associated behaviors for acute and chronic confusional states can be very different, there is a real need to conduct nursing research on the phenomenon of delirium in long-term care settings, and to investigate assessment and management strategies when the two conditions co-exist in the long-term care resident.

***Sundown Syndrome.*** Sundown syndrome is confusion that occurs or increases in the late afternoon and early evening hours (Evans, 1987). This phenomenon is similar to delirium in its symptoms of confusion, agitation, restlessness, and wandering, although delirium is typically of a short duration. Few nurse researchers have investigated sundown syndrome. Evans (1987) studied 59 demented and 30 nondemented institutionalized elderly in an effort to describe this syndrome, determine its prevalence among nursing home residents, and define related psychosocial, physiologic, and environmental factors; she developed a Confusion Inventory for this research. Results showed increased restlessness and verbal behavior around sunset was associated with greater cognitive impairment, dehydration, nighttime awakenings for care, recent admission to the facility, and residing in their present room for less than 1 month. Interestingly, 85 percent of the demented subjects showed no symptoms related to sundowning, and there was no statistically significant relationship with morale, medications, demographic variables, use of restraints, or medical disorders. There is a need for further research in this area using round-the-clock observations of sleep/wake cycles and exacting indicators of psychological, physical, and biorhythm variables. At present, it is unclear whether "sundowning" in persons with irreversible dementias is a specific type of delirium with a unique etiology. More research is needed to determine if sundown syndrome is distinguishable from other types of confusion. In addition, the effects of nursing interventions on sundown syndrome deserve attention.



Courtesy, National Institute on Aging, NIH

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### **Chronic Confusional States (The Irreversible Dementias)**

Although there are 70 different conditions that can cause dementia in the middle and later years (Blass, 1982; Katzman, 1986), DAT is the most common, representing 60 percent of older persons who are irreversibly demented. Most nursing research devoted to chronic confusional states focuses on DAT. This progressive disorder is characterized by losses of memory, intellectual and language ability, and general competency over a period averaging 6-15 years and ending in death. Although the most commonly cited figure is that 4 percent to 7 percent of persons ages 65-75 suffer from some form of dementia (Cross & Gurland, 1986), recent epidemiological evidence

from the East Boston studies of Evans and colleagues (1989) suggests that the percentage may be almost twice that high. The percentage increases dramatically to 25 percent for those over age 85. A study of older community residents of a five-county region in North Carolina has suggested that the prevalence of dementia among blacks may be distinctly greater than among whites and that black women are particularly affected. Clearly, more research on the epidemiology and impact of this disorder in ethnic populations is needed (National Institute on Aging, 1990).

The costs associated with caring for persons with chronic confusion, both monetary and human, are enormous. Estimates average \$48 billion annually, and are projected to grow as the percentage of older Americans rises to 21.6 percent by the year 2040, increasing the number of cases of DAT fivefold! These sociodemographic trends alone suggest that DAT (sometimes referred to as the "disease of the century") and other chronic, irreversible dementias are important areas for nursing research (Maas & Buckwalter, 1991).

***Alzheimer's Disease and Related Dementias.*** As noted earlier, DAT, a progressive degenerative disorder of unknown etiology, is the most common of the chronic, irreversible confusional states. The diagnosis of DAT is made by exclusion of other possible causes of dementia (McKhann, Drachman, Folstein, Katzman, Price, & Stadlan, 1984). Several other degenerative brain diseases present with behaviors similar to those found in DAT, although their etiologies are quite different. Multi-infarct dementia (MID) accounts for about 10 percent of all dementing illnesses. When infarcts occur, cognitive and functional abilities diminish in abrupt, step-like fashion. MID and DAT coexist in another 17 percent of the cases of irreversible dementia (Heston & White, 1983). Other rare conditions account for 13 percent of the dementias, including Pick's disease, Creutzfeldt-Jakob disease, Parkinson's disease, Huntington's disease, normal pressure hydrocephalus, and Acute Immunodeficiency Syndrome (AIDS).

The onset of DAT is usually slow and gradual. A number of other cognitive, psychiatric, and physical conditions can mimic DAT. Thus, observed changes in client status must be carefully evaluated so as to avoid inappropriate diagnosis. Hall (1991) has described three types of behavior that may be present throughout the course of the disease: 1) baseline or normative behavior where the client is still cognitively and socially accessible; 2) anxious behavior, which is a response to stress; and 3) dysfunctional behavior, when excess stress is not reduced and the DAT victim cannot process the amount, complexity, or intensity of stimuli. More research is needed to validate these behaviors and to test Hall's Progressively Lowered Stress Threshold Model (Hall & Buckwalter, 1987).

### **Assessment Measures Used by Nurses in Research on Confusion**

Relatively few systematic studies have described the signs and symptoms of acute and chronic confusional states, or distinguished among the several types of dementias and other changes that accompany the aging process (Maas & Buckwalter, 1991). Some notable exceptions include the recent work of Neelon, Champagne and colleagues at the University of North Carolina. They developed the NEECHAM Confusion Scale (Champagne, Neelon, McConnell, & Funk, 1987) to permit rapid bedside documentation of normal information processing, early subtle cues of acute confusion behavior, and acute confusion. The tool has been tested in comparison to clinical indicators of acute confusion in nursing home residents and with 158 hospitalized elderly. A NEECHAM score of 24 or below predicted confusion with a sensitivity of 0.95 and a specificity of 0.78. Thus, the NEECHAM scale promises to be a useful instrument in the prediction and monitoring of confused older persons. Booth and Whall (1987) conducted a three-phase study designed to: 1) use case histories to describe the onset and progression of DAT; 2) develop a health history profile (called the Life Factor Profile) to discriminate between DAT and other disorders; and 3) test the discriminate validity of the case history instrument. Psychiatric symptoms, especially depression, are often associated with dementing illness. Because

standardized instruments designed specifically to measure depressive symptoms in the demented population are lacking, Kumar, Peterson, Kumar, and Fulk (1989) conducted a comparative study of 38 community dwelling dementia patients to assess: 1) the usefulness of existing instruments to discern psychiatric illness that could be treated; 2) the ability of the relationship between various measures of cognitive function and behavioral changes to predict the course of the psychiatric illnesses; and 3) the ability of various measures to predict institutionalization. Results indicated a high level of depression that increased over time, and contradicted the belief that depression is more common in mildly demented persons than in severely demented persons. Similar research, evaluating common psychiatric and cognitive tools, should be conducted on confused patients residing in long-term care settings.

Although assessment tools are reported in the literature that profess to assist the nurse in accurately describing the behavioral manifestations of confusion and distinguishing specific etiologies, few nursing assessment tools have been rigorously evaluated in terms of their psychometric properties and clinical usefulness. For example, Nagley (1986) found that the Short Portable Mental Status Questionnaire, used in many studies of confusion, did not adequately capture the phenomenon of confusion. She recommended that nurses use a combination of cognitive and behavioral responses in their assessment, and that confusion is best studied through daily or continuous observation and testing of mental status. McCartney and Palmateer (1985a; 1985b) compared assessment techniques of physicians and nurses using the Cognitive Capacity Screening Examination (CCSE) in a sample of hospitalized medical-surgical patients. They found that assessments did not routinely include either formal cognitive testing or enough precise behavioral descriptions and that both physicians and nurses failed to identify a significant number of cognitively impaired elderly. Studies of this nature should be replicated with long-term care populations.

The development and testing of comprehensive functional assessment instruments that incorporate perceptual, cognitive, and environmental components have received little attention in the nursing research literature. Noting that instruments to measure activities of daily living (ADL) were developed to assess physical function and were not designed to assess cognitive dysfunctions that influence self-care abilities, Beck (1988) designed and tested a Dressing Performance Scale for use with persons with dementia. Following a task analysis of dressing behavior based on multiple observations of demented persons and caregivers, a hierarchy of types of caregiver assistance required was defined. These types of assistance include: 1) no assistance; 2) stimulus control; 3) initial verbal prompt; 4) gestures or modeling; 5) occasional physical guidance; 6) complete physical guidance; and 7) complete assistance. Beck is currently using the Dressing Performance Scale in a study funded by the Alzheimer's Disease and Related Disorders Association to teach caregivers to use behavioral strategies as interventions for the demented to carry out ADL's.

Sandman, Norberg, Adolfsson, Axelsson, and Hedly, (1986) studied five hospitalized patients in different stages of DAT to describe the behaviors of patients and nurses during morning care. All of the DAT patients were severely demented and required some assistance with morning care, defined as a procedure involving a series of actions that are combined into meaningful wholes, for example, washing, showering, combing, tooth-brushing, shaving, and dressing in a special environment. A 12-step classification was developed as a guide to understand and determine abilities essential for performance of morning care for demented patients. The study found that missing abilities could be determined, that highest level of performance varied from day to day, and that the nurse could compensate for the DAT patient's fragmented behavior. Apraxia was identified as the critical factor in morning care. Paratonia (increasing muscle tone during passive movements of different strength) was observed frequently and could be falsely interpreted as conscious resistance or refusal to participate, indicating the need for nurses to continuously assess the DAT patient's abilities and the assistance required throughout morning care.

In an experimental study to evaluate the effects of a Special Alzheimer's Care Unit (SCU) on DAT patients' functional status, Maas and Buckwalter (1986) developed and tested a Functional Abilities Checklist (FAC). The instrument was developed because existing measures did not address all of the behaviors characteristic of demented patients that influence their abilities to function in their environment. The areas of functional abilities included in the scale are: self-care abilities (7 items); inappropriate behaviors (4 items); cognitive status (6 items); mobility status (6 items); communication behaviors (3 items); and emotional status (7 items). This instrument is undergoing psychometric evaluation. Interrater reliability yielded a Pearson  $r = 0.92$  for the total scale among registered nurse raters. Internal consistency reliability coefficients (Cronbach's Alpha) by subscale have ranged from 0.63 to 0.86. Data for the instrument have been correlated with data collected using the Geriatric Rating Scale (GRS) (Plutchik & Conte, 1972) as estimates of concurrent and construct validity. Pearson correlations were determined among the subscales of both instruments yielding statistically significant coefficients of 0.52 or greater for self-care and mobility dimensions and small or inverse correlations for inappropriate behavior, cognitive status, communication, and emotional status.

### **Institutional Settings**

***Special Alzheimer's Care Units.*** Although the use of specially designed environments has been recognized as a needed intervention for persons with chronic confusional states such as DAT, research to evaluate the effects on patients, families, staff caregivers, and cost has only been reported within the past 5 years. Among the proposed environmental interventions, Special Alzheimer's Care Units (SCU) have been the most popular. Nursing homes have tended to believe that SCU's are effective in the care of chronically confused patients, although most information that exists regarding cost effectiveness is anecdotal (Maas & Buckwalter, 1986). There are only a few reports of nursing studies to evaluate the effects of SCU's and most designs have not used enough controls to rule out alternative explanations of the findings (Benson, Cameron, Humbach, Servino, & Gambert, 1987; Cleary, Clamon, Price, & Shullaw, 1988; Greene, Asp, & Crane, 1985; Hall, Kirshchling, & Todd, 1986; Matthew, Sloan, Kilby, & Flood, 1988). Also, the studies reported have examined the effects of single SCU's. Because individual SCU's vary widely in philosophy, design, staffing, admission criteria, and treatment modalities used, results from these studies are difficult to compare or integrate. Only the Maas and Buckwalter (1986) study used random assignment of DAT patients to experimental (SCU) and control (traditional nursing units) environments and pretest and posttest repeated measures to assess the effects of the SCU strategy. Matthew et al. (1988) studied 13 dementia patients in one SCU and 34 patients in two comparison settings, that is, other wards in the nursing home with the SCU and another nursing home. Data were collected from observations, existing clinical records, and clinical examinations. More SCU than comparison patients were private pay, had a specific diagnosis of DAT, had fewer additional medical diagnoses, had less frequent use of physical restraints, and had families with high satisfaction with care. There was a trend toward more SCU patients being Caucasian, receiving more psychotropic medications, having more documented injuries and falls, and developing fewer decubiti. No differences were found in cognitive or functional status between the demented SCU patients and the comparison patients. Greene et al. (1985) reported behavioral characteristics of six DAT patients before and after care on a SCU in a 180-bed nursing home. An average of 43 percent negative behaviors (e.g., hostile, agitated, incontinent, combative) were reported while the patients were living on traditional units, compared to three percent with negative behaviors while living on the SCU.

***Reduced Stimulation Units.*** Cleary et al. (1988) reported an evaluation of the effects of a Reduced Stimulation Unit (RSU) on patients, staff, and family members in a nonprofit life-care center. A pretest-posttest design with multiple measures was used, with pretest measures obtained in the three months prior to the opening of the unit and posttest measures obtained in the three months following the opening of the unit. All patients transferred to the RSU had been cared for

previously on the same traditional nursing care unit. Patients showed a statistically significant improvement in performance of ADL's, but no significant improvement in emotional and mental characteristics. There was a statistically significant increase in patients' average weight, a significant reduction in use of physical restraints, no significant change in sleep patterns, and no differences in the levels of tranquilizing medications. There was significant improvement in family member satisfaction with care, although family satisfaction was already quite high prior to opening of the RSU. Neither staff knowledge nor satisfaction changed significantly.

**Low Stimulus Units.** Hall et al. (1986) studied 12 DAT patients after they were moved to a Low Stimulus Unit (LSU) in an 89-bed nursing home. The DAT patients were followed for three months post transfer to the LSU and the following changes were observed: 1) interaction and social support increased among the DAT patients; 2) socialization at mealtime increased; 3) either weight increased or weight loss decreased for all but one patient; 4) prescription of tranquilizers decreased; 5) all patients slept at night without sedation; 6) PRN sedation decreased; and 7) agitation, combative behavior, and wandering episodes decreased.

## Research Needs and Opportunities

### Nursing Interventions for Patients with Chronic Confusional States

Much of the nursing literature on interventions for patients with chronic confusional states has not been validated through research. As noted earlier, almost all research in this area focuses on DAT. Beck and Heacock (1988) identified the following areas for research related to nursing interventions.

**Communication.** The language of confusion is characterized by fluent, spontaneous speech, impaired auditory and written comprehension, relatively preserved repetition, and good articulation (Murdock, Chenery, Wilks, & Boyle, 1987). Persons with DAT show more impairment in those language functions that are greatly dependent on cognition. Naming impairment has been empirically demonstrated to be associated with mild early cases of DAT, even when other language processes are intact (Adams, Craig, & Parsons, 1986). Nurses must therefore alter normal communication patterns to compensate for language losses associated with chronic confusional states such as DAT. Although not research-based, Bartol (1979) emphasized the importance of communication with confused older persons and the relationship between well-being and communication in this population. Langland and Panicucci (1982) found an increase in facial expression, eye contact, and body movements in confused elderly patients when touch was used with verbal requests. Similarly, Burnside (1979) noted subjective improvement in six regressed clients with whom touch was used. More rigorous nursing research is needed in the area of nonverbal communication abilities, focusing on touch, facial expression, eye contact, tone of voice, and posture.

**Physical Dimensions of Care.** More research is needed on nutritional status and hydration and maintenance of oral hygiene in the care of confused persons; interventions in the management of problems in swallowing and in prevention of protein-calorie malnutrition in this population need to be developed and tested. Sleep/wake cycles are often disrupted in the confused patient (Clapin-French, 1986). Nursing research is needed to evaluate the effectiveness of daytime naps/rest periods on nighttime wakefulness; the relationship of sleep cycle disturbances to sedative-hypnotic and psychotropic medications; and environmental factors such as color of nurses' uniforms (Steffes & Thralow, 1985). Manipulation of rigid institutional schedules to reflect changing sleep patterns in older persons also should be examined. Incontinence is common among long-term care residents with confusion and may be caused by a variety of medical conditions, sensory perceptual deficiencies, and environmental factors. Biofeedback techniques have proved useful in retraining patients to interpret feelings of bladder fullness (O'Donnell, Doyle, & Beck, 1988) and deserve

further attention. The effectiveness of reorientation and remotivation techniques (e.g., signs, color-coding and other visual cues, behavioral training) also deserve further study. Safety issues related to falls, elopement, physical aggression, and restraints are primary concerns in the care of confused individuals residing in long-term care facilities. More research is needed on fall prevention in this population.

***Emotional Dimensions of Care.*** There is a paucity of research-based interventions related to the idiosyncratic and often exaggerated emotional responses associated with chronic confusional states such as DAT. Beck and Heacock (1988) identified a number of areas for nursing interventions and research. Aberrant sexual behavior may occur in confused patients because of impaired inhibitions and judgement. One area where more research is needed is that of hypersexuality. Recent research by Wright (1989) indicated the need to examine affection and sexuality, particularly in male victims of DAT. Problems related to hypersexuality were found in 14 percent of the sample. Also, research is needed to determine effective nursing interventions in the management of anxiety in confused patients, for example, simplification of routines, information-giving and choices, exercise, and relaxation techniques. Prevention and management of catastrophic reactions is another significant area for nursing research. Particular attention should be paid to the development and testing of interventions, such as diversionary tactics, that deal with angry and aggressive behaviors. Depression and dementia frequently coexist in the early stages of dementia. The prevalence of depression in long-term care patients with dementia is not well-defined. As members of multidisciplinary research teams, nurses should investigate the effectiveness of psychotherapeutic interventions alone or in combination with antidepressant medication therapy in this population.

***Cognitive Dimensions of Care.*** Many components of cognition are altered with the progression of chronic confusional states. Interventions to enhance sensation and adjust to normal sensory changes are needed. One promising area of research is sensory training sessions. Perceptual deficits are found frequently in confused patients, and the inability to recognize and correctly interpret objects in the environment has a profound effect on nursing care. Distorted perceptions often lead to psychiatric symptoms such as illusions, delusions, and pseudohallucinations which are disturbing to both patients and staff. The testing of environmental modifications, behavioral techniques, and cueing mechanisms to reduce perceptual difficulties and misperceptions is sorely needed. Apraxia and other motor behaviors interfere with the chronically confused person's ability to perform ADL's. Nurses should examine sequencing and other assistive techniques that will enable the confused resident to remain functionally independent. Orientation and memory problems are among the earliest problems encountered in chronic confusional disorders such as DAT. Research on the benefits of techniques such as cognitive retraining (Beck, Heacock, Mercer, Thatcher, Sparkman, 1988), cognitive structuring, and cognitive remediation (which uses a progressive series of graded, mentally-challenging activities) on short-term memory is equivocal and worthy of more study (Yesavage, Westphal, & Rush, 1981; Zarit, Cole, & Guider, 1981; Zarit, Zarit, & Reeve, 1982). Nursing strategies such as cueing (Morris, Wheatley, & Britton, 1983), prompting, visual imagery (Zarit, Zarit, & Reeve, 1982), stress-reduction, and reinforcement are promising and also deserve further evaluation.

Reality orientation (R/O), which was first described by Taulbee and Folsom in 1966, has been cited as a technique to help alleviate confusion in older persons, although it has received very little empirical support as an effective mechanism, especially over time. Very little nursing research has been conducted on R/O in the last 5 years (Gropper-Katz, 1987). Studies by Hogstel (1979), Nodhturft and Sweeney (1982), and Parker and Somers (1983) have produced largely nonsignificant, inconclusive, or methodologically-flawed findings. Many experts in the field question the use of R/O based on the fact that confusion may be a denial or defense mechanism necessary to cope with unpleasant realities (Feil, 1984; Schwab, Rader, & Doan, 1985; Shoham & Neuschantz, 1985). However, Baines, Saxby, and Ehlert (1987) report that it may be important to



use R/O techniques with confused residents prior to involving them in a reminiscence group.

Feil's (1984) concept of validation therapy requires further rigorous research, as does the psychodynamic group approach described by Akerlund and Norberg (1986). Although much remains to be understood about wanderers and their behavior, wandering is a care problem where nursing research efforts are building and beginning to have considerable clinical impact in terms of guiding nursing interventions. Early work by Monsour and Robb (1982) identified wandering as consistent with lifelong behavior patterns. More recently, Rader and colleagues (1985) have described wandering in terms of agenda behaviors. Algase (1989) has examined cognitive and social discriminants of wandering behavior in cognitively-impaired nursing home residents. Her findings suggest global impairments among wanderers, as well as language, judgment, and spatial deficits, and implicate parietal lobe pathology. Research efforts such as those described above, which help nurses to conceptualize wandering behavior, should lead to the next stage of intervention studies to evaluate interventions such as structured physical exercise and environmental cues and conditions (e.g., increased light).

***Social Dimensions of Care.*** More research is needed on methods to facilitate social interaction and social skills in institutionalized residents suffering from confusion and to evaluate the effects of enhancing their sense of mastery and control over the environment. Research by Beck (1982) suggests that approaches designed to stimulate awareness and control of surroundings also increase cognitive activity among nursing home residents. Group therapy approaches and use of plush animals (Francis & Baly, 1986) are interventions with potential for increasing socialization among persons with chronic confusion.

### **Assessment Measures**

Clearly, nursing research is needed to develop and test both comprehensive functional assessment tools and tools to measure specific deficits so that nursing interventions can be designed to help confused persons remain as functionally able as possible. The adaptation of existing functional assessment measures is needed for nursing assessment of patients suffering from both acute and chronic confusional states. These instruments must take into account the highly variable cognitive, psychosocial, and physical deficits among confused patients and the interaction of these deficits with the patient's specific environment. Determination of the effect of cognitive function on performance of ADL's and identification of the nursing interventions needed are two critical issues that must be addressed (Beck, 1988).

### **Applied Services Research**

The development of appropriate, effective, and safe services for the care and support of confused patients and their families in long-term care settings is a particular challenge. Whether informal caregivers have appropriate roles in collaborative staff-family efforts must be examined (Buckwalter & Hall, 1987). The effects of family involvement in nursing homes in an adjunct staff capacity (e.g., as co-group leaders of remotivation, movement, and music groups) should be tested in terms of impact on patient, staff, and family morale. Studies that prospectively investigate the effect of work stress on indicators of psychological well-being (e.g., burnout, depression, job satisfaction) among staff who work with confused residents are needed. Similarly, nursing research on staffing patterns, professional roles, and coordination of services in long-term care settings is essential (Buckwalter, 1989).

### **Recommendations**

Based on the foregoing assessment of research needs and opportunities in "Confusion," the Panel has made the following recommendations concerning research in this area over the next five

years.

### **Research**

- Develop and test practical tools for the differential diagnosis of dementia, delirium, and depression.
- Conduct clinical trials of treatment models that address both chronic and acute confusional states as well as situations where they coexist.
- Evaluate SCU's or other environmental interventions for persons with chronic confusional states (dementias).
- Conduct studies that focus on the prevention of cognitive and functional decline, prevention and management of excess disability, and rehabilitation of older persons suffering from confusion.

Hold a consensus conference on confusion (to be sponsored by the NCNR).

### **Training**

- Develop research training programs for future investigators who will be able to focus on research issues related to confusion in older persons and translate research findings into training curricula and practice arenas.

### **References**

Adams, M., & Hanson, R. (1978). The confused patient: Psychological responses in critical care units. *American Journal of Nursing*, 9, 1504-1520.

Adams, R.L., Craig, P.L., & Parsons, O.A. (1986). Neuropsychology of dementia. *Neurological Clinics*, 4(2), 387-404.

Akerland, B.M., & Norberg, A. (1986). Group psychotherapy with demented patients. *Geriatric Nursing*, 7(2), 83-84.

Algase, D. (1989). Cognitive and social discriminants of wandering behavior in cognitively impaired nursing home residents. Paper presented at the Council of Nurse Researchers, September 29, Chicago, IL.

American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders-Revised* (1987). Washington, D.C., pp.100-103.

Baines, S., Saxby, P., & Ehlert, K. (1987). Reality orientation and reminiscence therapy: A controlled cross-over study of elderly confused people. *British Journal of Psychiatry*, 151, 222-231.

Bartol, M.A. (1979). Nonverbal communication in patients with Alzheimer's disease. *Journal of Gerontological Nursing*, 5(4), 21-29.

Batt, L.J. (1989). Managing delirium. *Journal of Psychosocial Nursing*, 27(5), 22-25.

Beck, C. (1988). Measurement of dressing performance in persons with dementia. *The American Journal of Alzheimer's Care and Related Disorders & Research*, May/June, 21-25.

- Beck, C., & Heacock, P. (1988). Nursing interventions for patients with Alzheimer's Disease. *Nursing Clinics of North America*, 23(1), 95-124.
- Beck, C., Heacock, P., & Mercer, K., Thatcher, R. Sparkman, C. (1987). The impact of cognitive skills remediation training on persons with Alzheimer's disease or mixed dementia. *Journal of Geriatric Psychiatry*, 21(1), 73-88.
- Beck, P. (1982). Two successful interventions in nursing homes: The therapeutic effects of cognitive activity. *The Gerontologist*, 22, 378.
- Benson, D.M., Cameron, E., Humbach, E., Servino, L., & Gambert, S. (1987). Establishment and impact of a dementia unit within the nursing home. *Journal of the American Geriatrics Society*, 35, 319-323.
- Blass, J.P. (1982). Dementia. *Medical Clinics of North America*, 66, 1143-1160.
- Booth, D., & Whall, A. (1987). Understanding progressive dementia: Making a case for the case study. In H.J. Altman (Ed.) *Alzheimer's Disease: Problems, Prospects and Perspectives* (pp. 209-212). (Proceedings of the National Conference on Alzheimer's Disease and Dementia, April 1986), New York: Plenum Press.
- Brannstrom, B., Gustafson, Y., Norberg, A., & Winblad, B. (1989). Problems of basic nursing care in acutely confused and non-confused hip fracture patients. *Scandinavian Journal of Caring Sciences*, 3(1), 27-34.
- Buckwalter, K.C. (1989). Applied services research: Clinical issues and directions. E. Light and B. Lebowitz (Eds.). *Alzheimer's disease treatment and family stress: Directions for research*, (pp. 434-458). Washington, D.C: U.S. Department of Health and Human Services.
- Buckwalter, K.C., & Hall, G.R. (1987). Families of the institutionalized older adult: A neglected resource. In T.H. Brubaker (Ed.) *Aging, health and the family: Long-term care* (pp. 176-196). Newbury Park, CA: Sage Publications.
- Buckwalter, K.C., Abraham, I.C., & Neundorfer, M. (1988). Alzheimer's Disease: Involving nursing in the development of health care for patients and families. *Nursing Clinics of North America*, 23,(1), 1-10.
- Burnside, I.M. (1979). Alzheimer's disease: An overview. *Journal of Gerontological Nursing*, 5(4), 14-20.
- Champagne, M.T., Neelon, V.J., McConnell, E., & Funk, S.G. (1987). The NEECHAM Confusional Scale: Assessing acute confusion in the hospitalized and nursing home elderly. *The Gerontologist*, 27, 4A (Abstract).
- Chisholm, S., & Deniston, O. (1982). Prevalence of confusion in elderly hospitalized patients. *Journal of Gerontological Nursing*, 8, 87-96.
- Clapin-French, E. (1986). Sleep patterns of aged persons in long-term care facilities. *Journal of Advanced Nursing*. 11(1), 57-66.
- Cleary, T.A., Clamon, C., Price, M., & Shullaw, G. (1988). A reduced stimulus unit: effects on patients with Alzheimer's disease and related disorders. *The Gerontologist*, 28(4), 511-514.

- Cross, P.S., & Gurland, B.J. (1986). The epidemiology of dementing disorders. Contract report prepared for the Office of Technology Assessment, U.S. Congress.
- Evans, D.A., Funkenstein, H.H., Albert, M.S., Scherr, P.A., Cook, N.R., Chown, M.J., Hebert, L.E., Hennekens, C.H., & Taylor, J.O. (1989). Prevalence of Alzheimer's disease in a community population of older persons. *Journal of the American Medical Association*, 262(18), 2551-2557.
- Evans, L.K. (1987). Sundown syndrome in institutionalized elderly. *Journal of the American Geriatric Society*, 35(2), 101-108.
- Fawdry, K., & Berry, M.L. (1989). Fear of senility: the nurse's role in managing reversible confusion. *Journal of Gerontological Nursing*, 15(4), 17-21.
- Feil, N. (1984). Communicating with the confused elderly patient. *Geriatrics*, 39, 131-132.
- Fields, S.D., MacKenzie, C. R., Charlson, M.E., & Sax, F. L. (1986). Cognitive impairment: Can it predict the course of hospitalized patients? *Journal of the American Geriatrics Society*, 34, 579-585.
- Foreman, M. (1986). Acute confusional states in the hospitalized elderly: A research dilemma. *Nursing Research*, 35(1), 34-37.
- Foreman, M.D. (1989). Confusion in the hospitalized elderly: Incidence, onset, and associated factors. *Research in Nursing and Health*, 12, 21-29.
- Francis, G., & Baly, A. (1986). Plush animals-do they make a difference? *Geriatric Nursing*, 7(3), 140-142.
- Gomez, G., & Gomez, E. (1989). Dementia? Or Delirium? *Geriatric Nursing*, 10(3), 141-142.
- Greene, J., Asp, J., & Crane, N. (1985). Specialized management of a Alzheimer's patient: does it make a difference? A preliminary progress report. *Journal of the Tennessee Medical Association*, 78(9), 58-63.
- Gropper-Katz, E.I (1987). Reality orientation research. *Journal of Gerontological Nursing*, 13(8), 13-18.
- Gustafson, Y., Berggren, D., Brannstrom, B., Bucht, G., Norberg, A., Hansson, L., & Winblad, B. (1988). Acute confusional states in elderly patients treated for femoral neck fractures. *Journal of the American Geriatrics Society*, 36(6), 525-30.
- Hahn, K. (1981). Using 24 hour reality orientation. *Journal of Gerontological Nursing*, 6(3), 130-135.
- Hall, G. R. (1986). Confusion. Unpublished manuscript, submitted for Adult Health Nursing 1, 96:226, University of Iowa College of Nursing.
- Hall, G.R., Kirschling, M., & Todd, S. (1986). Sheltered freedom: The creation of an Alzheimer's unit in an intermediate care facility. *Geriatric Nursing*, 7, 132-136.
- Hall, G., & Buckwalter, K. (1987). Progressively lowered stress threshold: a conceptual model for care of adults with Alzheimer's Disease. *Archives of Psychiatric Nursing*, 1(6), 309-406.

- Hall, G. (1991). Altered thought processes: Dementia. In M. Maas, K. Buckwalter, & M. Hardy, M. (Eds). *Nursing diagnoses and interventions for the elderly*, (pp. 322-347). Menlo Park, CA: Addison Wesley.
- Heston, L., & White, J. (1983). *Dementia: A practical guide to Alzheimer's disease and related illnesses*. New York: Freeman & Co.
- Hogstel, M. (1979). Use of reality orientation with aging confused patients. *Nursing Research*, 28 (3), 161-165.
- Katzman, R. (1986). Alzheimer's Disease. *New England Journal of Medicine*, 314, 964-973.
- Koponen, H., Hurri, L. Stenback, U., & Riekkinen, P.J. (1987). Acute confusional states in older persons: A radiologic evaluation. *Acta Psychiatrica Scandinavica*, 76(6), 726-731.
- Kumar, V., Peterson, K., Kumar, N., & Fulk, L. (1989). Measuring cognitive and behavior changes in community dwelling Alzheimer's disease patients. *The American Journal of Alzheimer's Care and Related Disorders & Research*, Jan/Feb., 13-18.
- Langland, R.M., & Panicucci, C. (1982). Effects of touch on communication with elderly confused clients. *Journal of Gerontological Nursing*, 8, 152-155.
- Lincoln, R. (1984). What do nurses know about confusion in the aged? *Journal of Gerontological Nursing*, 10(8), 26-29.
- Lipowski, Z.J. (1989) Delirium in older persons patient. *The New England Journal of Medicine*, 320(9), 578-582.
- Maas, M., & Buckwalter, K.C. (1986). Evaluation of a special Alzheimer's unit. Unpublished manuscript, University of Iowa, Iowa City, IA.
- Maas, M., & Buckwalter, K.C. (1991). Alzheimer's Disease. In J.J. Fitzpatrick, R.L. Taunton & A.K. Jacox, (Eds.). *Annual Review of Nursing Research*, (pp. 19-55). New York: Springer Publishing Co.
- Matthew, L., Sloan, P., Kilby, M., & Flood, R. (1988). What's different about a special care unit for dementia patients: a comparative study and research. *The American Journal of Alzheimer's Care and Related Disorders*, March/April, 16-23.
- McCartney, J.R., & Palmateer, L.M. (1985a). Do nurses know when patients have cognitive deficits? *Journal of Gerontological Nursing*, 11(2), 6-16.
- McCartney, J.R., & Palmateer, L.M. (1985b). Assessment of cognitive deficit in geriatric patients. *Journal of the American Geriatric Society*, 33(7), 467-471.
- McKhann, G., Drachman, D., Folstein, M., Katzman, R., Price, D., & Stadlan, E. (1984). Clinical diagnosis of Alzheimer's disease: Report of the NINCDS-ADRDA Work Group under the auspices of Department of Health and Human Services Task Force on Alzheimer's Disease. *Neurology*, 34, 939-944.
- Monsour, N., & Robb, S. (1982). Wandering behavior in old age: A psychological study. *Social Work*, 27, 411-416.

- Morris, R., Wheatley, J. & Britton, P. (1983). Retrieval from long-term memory in senile dementia: Code recall revisited. *British Journal of Clinical Psychology*, 22, 141-142.
- Mullally, W.J., Ronthal, M. Huff, K., & Geschwind, N. (1989). Chronic confusional state. *New Jersey Medicine*, 86(7), 541-544.
- Murdock, B.E., Chenery, H.J., Wilks, V., & Boyle, R.S. (1987). Language disorders in dementia of the Alzheimer's type. *Brain and Language*, 31, 122-127.
- Nagley, S.J. (1986). Predicting and preventing confusion in your patients. *Journal of Gerontological Nursing*, 12(3), 27-31.
- Nagley, S.J., & Dever, A. (1989). What we know about treating confusion. *Journal of Applied Nursing Research*, 1(2), 80-83.
- Neelon, V.J., & Champagne, M.T. (1986). Acute confusion in hospitalized elderly: Patterns and early diagnosis. *Journal of Gerontological Nursing*, 8, 396-401.
- National Institute of Aging (1990). *Progress Report on Alzheimer's Disease*. Washington, DC: U.S. Department of Health and Human Services.
- Nodhturft, B.L., & Sweeney, N.M. (1982). Reality orientation therapy for the institutionalized elderly. *Journal of Gerontological Nursing*, 8(7), 396-401.
- O'Donnell, P.D., Doyle, R., & Beck, C. (1988). Biofeedback therapy of urinary incontinence in older inpatient men. *Proceedings from the NIH Consensus Development Conference on Urinary Incontinence*, (pp. 91-93). Bethesda, MD: National Institutes of Health.
- Parker, C., & Somers, C. (1983). Reality orientation on a geropsychiatric unit. *Geriatric Nursing*, 4(3), 163-165.
- Plutchik, R., & Conte, H. (1972). Change in social and physical functioning of geriatric patients over a one year period. *The Gerontologist*, 12(2), 181-184.
- Rader, J., Dean, J., & Schwab, M. (1985). How to decrease wandering: A form of agenda behavior. *Geriatric Nursing*, 6(4), 196-199.
- Rockwood, K. (1989). Acute confusion in elderly medical patients. *Journal of the American Geriatrics Society*, 37(2), 150-154.
- Roslaniec, A., & Fitzpatrick, J.J. (1979). Changes in mental status in older adults with four days hospitalization. *Research in Nursing and Health*, 2, 117-189.
- Sandman, P.O., Norberg, A., Adolfsson, R., Axelsson, K., & Hedly, V. (1986). Morning care of patients with Alzheimer-type dementia: A theoretical model based on direct observations. *Journal of Advanced Nursing*, 11, 369-378.
- Schwab, M., Rader, J., & Doan, J. (1985). Relieving the anxiety and fear in dementia. *Journal of Gerontological Nursing*, 11(5), 8-15.
- Shohan, H. & Neuschantz, S. (1985). Group therapy with senile patients. *Social Work*, 30, 69-72.

- Steffes, R., & Thralow, J. (1985). Do uniform colors keep patients awake? *Journal of Gerontological Nursing*, 11(7), 6-9.
- Taulbee, L.A., & Folsom, J.C. (1966). Reality orientation for geriatric patients. *Hospital and Community Psychiatry*, 17(5), 133-135.
- Weymouth, L.T. (1968). Nursing care of the so-called confused patient. *Nursing Clinics of North America*, 3, 709-715.
- Williams, M., Campbell, E., Raynor, W., Musholt, M., Mlynarczyk, S., & Crane, R. (1985). Predictors of acute confusional states in hospitalized elderly patients. *Research in Nursing and Health*, 8, 31-40.
- Williams, M., Campbell, E. Raynor, W., Mlynarczyk, S., & Ward, S.E. (1985). Reducing acute confusional states in elderly patients with hip fractures. *Research in Nursing and Health*, 8, 329-337.
- Wolanin, M., & Phillips, L. (1981). *Confusion: Prevention and care*. St. Louis: CV Mosby Co.
- Wright, L.K. (1989). Marital relationships in the presence of Alzheimer's Disease. Dissertation abstract. Medical College of Georgia, Augusta, GA.
- Yesavage, J.A., Westphal, J., & Rush, L. (1981). Senile dementia: Combined pharmacologic and psychologic treatment. *Journal of the American Geriatrics Society*, 29, 164-171.
- Zarit, S. (1980). *Aging and Mental Disorders: Psychological Approaches to Assessment and Treatment*. New York: The Free Press.
- Zarit, S.H., Cole, K.D., & Guider, R.L. (1981). Memory training strategies and subjective complaints of memory in the aged. *The Gerontologist*, 21, 152-164.
- Zarit, S.H., Zarit, J., & Reeve, K.E. (1982). Memory training for severe memory loss: Effects on senile dementia patients and their families. *The Gerontologist*, 22(4), 373-377.
- Zisook, S. (1988) Delirium. *Psychiatric Medicine*, 6,(4), 8-22.

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