Characteristics of Taiwanese Elderly Patients in an Inpatient Psychiatric Unit

By

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Abstract

ABSTRACT

TITLE: Characteristics of Taiwanese Elderly Patients in an Inpatient Psychiatric Unit.

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The purpose of this study was to describe selected characteristics of geropsychiatric patients admitted to an acute psychiatric unit in a general hospital in an urban Taiwan setting and factors related to hospitalization. Background characteristics, psychiatric diagnoses, medical diagnoses, behavioral and psychiatric symptoms, and the length of hospital stay of older patients age 65 years and older admitted to an acute psychiatric unit in a general hospital in Taipei, Taiwan during Sep.- Dec., 1994 and Sep.- Dec., 1996 were examined and compared. The relationships between these factors and length of stay were examined also. Four research questions were addressed as followings:

1. What are the characteristics (age, gender, living situation, marital status, self-care ability and MMSE scores) of patients age 65 and over admitted during Sep. - Dec., 1994 compared to patients admitted during Sep. - Dec., 1996?

2. What are the reasons for admissions (e.g. psychiatric diagnoses, medical diagnoses, behavioral symptoms) of the older patients from Sep. - Dec., 1994 compared to Sep. - Dec., 1996?

3. What is the length of stay for the older patients admitted from Sep. - Dec., 1994 compared to those admitted from Sep. - Dec., 1996?

4. What patient characteristics and reasons for admission are associated with length of stay?

The data were collected on a convenient sample of 92 older inpatients, 39 in the 1994 time period and 53 in the 1996 time period. All data were obtained from patient medical records. Background characteristic variables were selected according to the literature review. Psychiatric and medical diagnoses were collected by using the DSM-IV and ICD-10 categories. Behavioral and psychiatric symptoms were examined by using a Behavioral Symptom Checklist.

Results indicated that two most common psychiatric diagnoses were "mood disorders" and "dementia, delirium, and other cognitive disorders". The most frequent medical diagnosis was "diseases of eyes and ears", followed by "circulatory system" and "endocrine/ metabolic/ nutritional" diseases. A high prevalence of medical problems in the sample was found. The five most common behavioral and psychiatric symptoms included "sleep disturbance", "paranoid & delusional ideation/ thinking", "restlessness/ agitation", "depressed mood", and "repetitive purposeless or inappropriate activity".

"Mood disorders" was found to be slightly positively correlated with a longer length of stay, while "schizophrenia and other psychotic disorders" was slightly negatively correlated, although the correlations were not statistically significant. "Paranoid & delusional ideation/ thinking", "sexually inappropriate behavior", and "problematic wandering" were found to be positively correlated with longer length of stay; these correlations approached statistical significance.

One conclusion drawn from the study was that a combination of selected variables may contribute together to a longer length of stay. These variables would need to be explicated in a conceptual framework prior to further study. Additionally, a large portion of the geropsychiatric patients in this study had some degree of dependence in daily self-care functioning which has implications for the amount of nursing assistance required when working with the elderly psychiatric inpatients.

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CHAPTER 1

Introduction

The elderly adult population is increasing and will continue to increase significantly in the United States. Those age 65 and over numbered 32.3 million people in 1992, representing 12.7% of the United States population. This group is projected to increase to 23% of the total population by the year 2035. Currently, about 5% of the geriatric population suffers from major depression and 17% from dementia. In particular, the incidence of dementia increases with age. In addition, the coexistence of physical illness and psychiatric/ mental health problems is common among the elderly population. A high prevalence of physical illness in the geropsychiatric population has been reported in the literature (Billig, & Leibenluft, 1987; Sheline, 1990). This combination of medical illness and psychiatric problems complicates accurate diagnosis, and makes appropriate treatment planning more difficult.

An increasing number of inpatient geropsychiatric units in acute care hospitals have been established since the early 1980s (Wagner, 1995). Often, geriatric patients are admitted for simultaneous treatment of medical and psychiatric problems. Because of increasing demands on such settings, knowledge about utilization of such facilities will be helpful for further planning. Moreover, knowledge about the characteristics of geropsychiatric patients and factors associated with their length of stay on such units will assist us in understanding the expertise and skills required of staff working on psychiatric units admitting older adults and in developing nursing interventions targeted for this special population.

Similar to trends in the United States, the percent of the elderly population in Taiwan is projected to increase from 4.8% in 1984 to 7.7% by 1999 (Chen, Wang, & Chen, 1986). Increasingly, urban and rural hospitals have established or remodel specialty units to meet the demands of care for the geropsychiatric population. However, few studies conducted in Taiwan were found that describe the characteristics of elderly people with mental disorders admitted to these units or factors associated with their hospital stay. The purpose of this study is to describe selected characteristics of geropsychiatric inpatients admitted to an acute psychiatric unit in a general hospital in an urban Taiwan setting and factors related to their hospitalization.

CHAPTER 2

Literature Review

The literature on the elderly population hospitalized in psychiatric units covers the following major areas: (a) descriptive studies about the geropsychiatric inpatient population , (b) therapeutic and treatment issues on units treating geropsychiatric patients, and (c) experiences of nursing staff working with geropsychiatric patients. Pertinent studies and related literature are summarized in this section. More detailed information on each study can be found in Appendix A.

Descriptive studies about the nature of geropsychiatric inpatients

The review of literature located seven studies that focus on the nature of geropsychiatric inpatients (Cohen, & Casimir, 1989; Conwell, Nelson, Kim & Mozure, 1989; Lyons, Pressman, Pavkov, Salk, Larson, & Finkel, 1992; Sheline, 1990; Spar, Ford, & Liston, 1980; Tsai, Hwang, & Sim, 1995). All seven were descriptive studies conducted by non-nursing professionals to address the phenomenon of the elderly psychiatric inpatient population. Three studies explored the characteristics and diagnostic classification of psychogeriatric inpatients (Conwell, et al., 1989; Spar, et al., 1980; Tsai, et al., 1995). One study (Lyons, et al., 1992) compared the demographic, diagnostic and service data of younger and older patients admitted to the geropsychiatric specialty unit and two general psychiatric units. Older patients hospitalized on general and specialty units were also compared. Two studies focused on the factors associated with length of hospital stay among the elderly psychiatric

patients (Cohen, & Casimir, 1989; Moak, 1990). Finally, one (Sheline, 1990) investigated the prevalence of medical illness among the geropsychiatric inpatients.

Spar and his colleagues (1980) collected data about demographic, physical and symptomatic characteristics of the first 122 patients who were admitted to a new geropsychiatric teaching ward at a university hospital. Data were obtained from the medical and psychiatric history, physical examination, mental status examination, and laboratory tests for each patient. Neurological tests were performed and the Inventory of Psychiatric and Somatic Complaints in the Elderly (IPSCE) was administered to measure improvement during hospitalization. All patients diagnoses were made based on clinical symptoms combined with neurological test results. The findings showed a high incidence of medical problems among the psychogeriatric patients which were reflected by abnormal laboratory findings. The most common psychiatric diagnoses among this sample were depression and dementia. The data from the IPSCE demonstrated that significant improvement can occur in elderly psychiatric patients as a result of inpatient treatment. The authors suggested the lack of suitable after-care as a factor that may increase lengths of hospital stay for these patients.

Conwell, et al.(1989) reviewed medical records of 168 patients over the age of 60 years admitted to a general psychiatric unit over a 5-year period in order to develop a demographic and clinical profile of this population. Data were collected from the admission note, discharge summary, family interviews, and staff notes throughout hospitalization. Admission symptoms, past and personal histories of illness, and stressors within the past year before hospitalization were rated by a pair of researcher.

Another pair of researchers documented therapeutic interventions, treatment response, and associated medical conditions. Scales were constructed for rating symptom severity, functional status, and social performance during the first and last weeks of stay. The most common diagnoses found, according to DSM-III criteria, included affective disorder and organic brain syndromes. Length of stay was correlated with severity of depressive illness. Patients with dementia had a significantly shorter length of stay. Outcome measures showed a positive response to treatment in three-fourths of this population of elderly psychiatric patients. The most common medical illnesses among this sample included hypertension, cardiac disease, neurological condition, cancer, followed by diabetes mellitus, and hypothyroidism. At least one of these illnesses was noted on admission in 78.4% of the sample. The researchers suggested that acute psychiatric units in general hospitals are well suited to care for elderly psychiatric patients with combined medical and mental illnesses.

Tsai, Hwang, & Sim (1995) conducted a retrospective study to examine the characteristics, diagnostic classifications, and treatment outcomes of 524 patients with the age 65 or older admitted to the geropsychiatric unit of a general hospital in Taiwan over a 5-year period. Review of medical records and discharge summaries was used to obtain data in this study. Psychiatric diagnoses were made at discharge according to the DSM-III-R and grouped into seven categories: organic mental disorders, schizophrenia, other functional psychosis, mood disorders, substance related disorders, neurosis, and other. The results demonstrated that the two most common diagnoses among these subjects were organic mental disorders and mood disorders. The average

length of stay was 26.7 days, and no significant difference in length of stay was found between different diagnostic groups. The outcomes measured showed favorable response to hospitalization in most of these inpatients. The researchers suggested that reasons for hospitalization need to be addressed in further studies.

The study by Lyons, et al. (1992) compared younger patients to older patients hospitalized on either a specialty geropsychiatric unit or general psychiatric units on diagnostic, demographic, and service data during a six year period. A total number of 4,377 patients constituted the sample. In addition, patients over 55 years old from both the specialty unit (N=653) and the general unit (N=530) were compared in the analysis. Data were obtained from the computerized management information system. The findings revealed that the patients in the specialty geropsychiatric unit had significantly longer length of stays and more frequent diagnoses of depression and dementia. These patients were significantly older and showed less prevalence of schizophrenia as well. In contrast, a higher frequency of character pathology or personality disorder was found among patients in the general unit. The researchers concluded that patients served on a specialty geropsychiatric unit differ from younger psychiatric inpatients on a number of clinical, social, and utilization dimensions. They also suggested that further studies of the geropsychiatric population should focus more on length of stay, availability and accessibility of post-discharge resources, and long-term clinical outcomes.

Factors associated with length of hospital stay

Cohen & Casimir (1989) conducted a study to examine factors associated with length of hospital stay (LOS) for a major segment of the geropsychiatric population: persons admitted to an urban, state operated psychiatric facility. They examined 21 variables that had been found to be significant in earlier studies of general psychiatric populations to identify the associated factors among the older psychiatric population. The results showed that the 21 variables accounted for 28.5% of the explained variance in LOS. However, only four variables were significantly associated with LOS in this geriatric sample: (a) inability to return to the preadmission setting, (b) concomitant medical condition, (c) suicidal ideation, and (d) depressed mood. Of the four significant variables, the "inability to return to the preadmission setting" accounted for the greatest variance of LOS. The authors suggested that those variables found to be significant for this adult psychiatric population may not be inclusive of all variables affecting LOS in the geropsychiatric population.

In a study conducted by Moak (1990), the characteristics of discharged and non-discharged elderly patients from a state hospital were compared. Patients who were discharged may have been higher functioning, less behaviorally disturbed, and easier to care for in long-term care facilities.

Prevalence of physical illness

Sheline (1990) conducted a descriptive study to determine the prevalence of physical illness in a geriatric psychiatric inpatient population during a 15-month time period. A retrospective chart review of the patients aged 60 and older admitted to a

Research supports that elderly patients in general psychiatric units can receive effective treatment and have favorable responses to treatment (Billig, & Leibenluft, 1987; Tsai, et al.; 1995). However, some authors believe that medical-psychiatric units and geropsychiatric specialty units offer more appropriate care for this population (Fogel, & Kroessler, 1987; Kujawinski, et al, 1993; Tillman-Jones, 1990). To address this issue, Norquist and his co-workers (Norquist, Wells, Rogers, Davis, Kahn, & Brook, 1995) conducted a study to examine the difference in quality of care for elderly depressed patients hospitalized in specialty psychiatric units compared to those hospitalized in general medical wards. They found that patients received overall better psychological assessment and more psychological services on the psychiatric unit. They concluded that the quality of care involving the psychological aspects of the treatment of depression may be better on psychiatric units, while the quality of general medical components of care may be better on general medical words.

Principles that should be taken into account when caring for the geropsychiatric patients were identified in the literature (Billig, & Leibenluft, 1987; Fogel, & Kroessler, 1987; Green, et al., 1994; Tillman-Jones, 1990; Wagner, 1995). A systematic and structured physical and mental examination is essential. Thorough neurological examination, laboratory tests, complete psychiatric and physical histories are required. In addition, medical illnesses and the interaction of multiple medications among the geropsychiatric patients need to be noted because of the possibility of drug toxicity and drug interactions (Billig, & Leibenluft, 1987; Fogel, & Kroessler, 1987; Tillman-Jones, 1990).

A multidisciplinary team approach is desirable in any psychiatric inpatient setting serving older adults. In this approach, each team member communicates and collaborates with the other members who meet together regularly to discuss appropriate treatment goals for each patient. Treatment goals should be designed clearly and realistically. Generally, treatment goals for geropsychiatric patients include classifying the diagnosis, improving patient's self-care ability and socialization. A common goal for patients admitted because of deteriorating functioning and escalating psychiatric symptoms is stabilization so that the person can be better maintained in a suitable after-care setting (Billig, & Leibenluft, 1987; Forgel, & Kroessler, 1987; Ford, et al., 1980; Greene, et al., 1994; Tillman-Jones, 1990).

Somatic treatments for geropsychiatric patients include psychopharmacology and electroconvulsive therapy (ECT) (Forgel, & Kroessler, 1987; Tillman-Jones, 1990). High doses of neuroleptics are suggested to be avoided if possible because geropsychiatric patients are vulnerable to drug-induced Parkisonism and Tardive Dyskinesia. ECT can benefit those patients with refractory or profoundly disabling depression when it is used under close monitoring. Other treatment modalities include concurrent medical management of physical health problems, group psychotherapy, recreation therapy, patient and family education, and discharge planning (Billig, & Leibenluft, 1987; Forgel, & Kroessler, 1987; Greene, et al., 1994; Tillman-Jones, 1990; Spar, et al., 1980). When planning the treatment for the elderly patient in the inpatient setting, special considerations include the elderly person's decreased stamina

and need for rest periods. Environmental modifications may also need to be made to accommodate changes in functional abilities.

Development of a discharge plan with an integral care plan to be followed after discharge should begin on admission (Billig, & Leibenluft, 1987; Forgel, & Kroessler, 1987; Ford, et al., 1980; Greene, et al., 1994; Tillman-Jones, 1990). Inclusion of family members or other caregivers in discharge planning is essential to post-hospital success. A well-established care plan, including scheduling of appointments and follow-up care, facilitates maintaining patients at home or suitable facility and reduces the risk for relapse and hospitalization.

Experience of nursing staff working with geropsychiatric patients

As noted previously, geropsychiatric patients often have coexisting physical illnesses and functional disabilities. Hence, psychiatric nursing staff working with these older adults are required to provide more hands-on physical care. Some staff may welcome the task, but other are reluctant to work with elderly patients because they perceive the care as time-consuming, inflexible, less challenging, and limited in the use of psychotherapy (Tillman-Jones, 1990). They may feel overwhelmed and anxious about caring for elderly and focus on medical conditions rather than on the psychotic symptoms. Additionally, because nursing staff members are younger than the patients, individual nurse identification with the patients is limited and enhances professional distance (Ford, et al., 1980). On the other hand, because older patients sustain real losses of health, wealth, spouse and friends, their grief reactions tend to provoke strong empathic responses by the staff. Overall, the challenges of working with older

psychiatric patients may result in decreased morale, anger, and frustration which are considered to be signs of staff burnout. (Duquette, et al., 1994; Ford, et al., 1980; Tillman-Jones, 1990).

Three descriptive studies were conducted regarding attitude and burnout of nursing staff working in psychiatric settings. Of these, one focused on factors related to nursing staff burnout (Duquette, Kerouac, Sandhu, & Beaudet, 1994). One study specifically examined the relationship between staff burnout and empathy and attitudes, (Astrom, Nillson, Norberg, Sandman, & Winbled, 1991), and one study assessed the staff's attitudes towards the patient's behaviors (Ingstad & Gotestam, 1987).

A review of the literature on burnout located 36 articles (Duquette, et al., 1994). The analysis of these articles indicated that the best correlates of burnout among nursing personnel are role ambiguity, workload, age, hardiness, active coping, and social support. Nursing staff burnout tends to associate with more workload, younger age, less staff hardiness, less active coping and less social support.

Astrom, et al. (1991) studied sixty nursing staff to examine the relationship between their experience of burnout, empathy and attitudes towards patients with dementia. The findings indicated that RNs showed the most positive attitudes towards patients with dementia compared to nurse's aides and LPNs, and that burnout correlated with lower empathy and less positive attitudes. They also noted that "experience of feedback at work" and "time spent at present place of work" were the most important work related factors explaining burnout among the staff.

Ingstad, & Gotestam (1987) studied staff attitude changes related to a treatment program for elderly patients with dementia in a long-term care facility. They found that the attitude of nursing staff could be positively changed when the patient's behaviors improved as a result of treatment factors such as environmental modifications.

Summary of literature

The review of literature has documented characteristics of elderly psychiatric patients admitted to hospitals, presented special treatment issues related to the geropsychiatric population, and described the experience of nursing staff working with older adults admitted to hospitals for psychiatric care. Two most common psychiatric diagnoses of geropsychiatric patients are depression and dementia (Cohen, & Casimir, 1989; Conwell, et al., 1989; Sheline, 1990; Spar, et al., 1980; Tsai, et al., 1995). A significant difference between older versus younger psychiatric patients is the coexistence of physical problems and mental illnesses among the older group. A high prevalence of physical problems among geropsychiatric patients has been documented (Conwell, et al., 1989; Sheline,, 1990; Spar, et al., 1980). The common medical diagnoses of geropsychiatric patients include: hypertension, diabetes mellitus, cancer, hypothyroidism, and cardiac diseases (Conwell, et al., 1989; Kujawinski, et al., 1993). This combination of physical and mental illnesses in older adults has raised special treatment concerns among staff and contributed, in some cases, to staff's negative attitudes and feelings about caring for geropsychiatric patients. The importance of multidisplinary collaboration and post-hospital planning are addressed by several

authors (Billig, & Leibenluft, 1987; Fogel, & Kroessler, 1987; Green, et al., 1994; Tillman-Jones, 1990). The review of literature showed that length of stay may be affected by different hospital settings (Lyons, et al., 1992), diagnosis, concurrence of medical problems (Cohen, & Casimir, 1989; Conwell, et al., 1989), marital status (Moak, 1990), and discharge disposition (Cohen, & Casimir, 1989; Spar. et al., 1990).

However, most of the studies targeted the American geropsychiatric population; only one study was found that examined Taiwanese geropsychiatric inpatients. Understanding the characteristics of geropsychiatric patients in Taiwanese hospitals will contribute knowledge about this population. A descriptive study such as the one proposed here within may help lay the foundation for developing, implementing and evaluating nursing interventions that, for example, assist older psychiatric patients to maintain or improve their functional abilities and shorten their length of stay. The present study is designed to explore the characteristics of elderly psychiatric inpatients and the factors related to their hospitalization and length of hospital stay in one Taiwanese facility. Nursing staff experiences per se regarding working with geropsychiatric patients will be addressed in a future study.

Purpose and aims of the study

The specific aim of this retrospective study was to describe and compare the characteristics of older adults age 65 and over who were admitted to the Taipei Veterans General Hospital psychiatric unit during two 4-month time periods (Sep. - Dec., 1994 and Sep. - Dec. 1996). Patient characteristics, reasons for admission, and length of stay were examined and compared for the two time periods. The two time

periods were chosen to examine whether any changes had occurred in part as a result of remodeling the unit to better accommodate older patients.

Specific research questions addressed are as follows:

1. What are the characteristics (age, gender, living situation, marital status, self-care ability and MMSE scores) of patients age 65 and over admitted during Sep. - Dec., 1994 compared to patients admitted during Sep. - Dec., 1996?

2. What are the reasons for admissions (e.g. psychiatric diagnoses, medical diagnoses, behavioral symptoms) of the older patients from Sep. - Dec., 1994 compared to Sep. - Dec., 1996?

3. What is the length of stay for the older patients admitted from Sep. - Dec., 1994 compared to those admitted from Sep. - Dec., 1996?

4. What patient characteristics and reasons for admission are associated with length of stay?

CHAPTER 3

Methods

Design

This exploratory, non-experimental study was conducted by reviewing patient records to answer the research questions. Existing data on demographic variables, diagnoses, mental status, self-care ability, length of stay, and behavioral and psychiatric symptoms on admission were collected through a retrospective record review. This study involved a descriptive analysis because of its non-experimental nature. There was no attempt to manipulate or control variables.

Factors that might threaten the internal validity of this study included the presence of unmeasured environmental influences and other intervening variables and the potential sources of errors in data. Problems with reliability might be an issue because the information in the charts was entered by multiple staff for clinical purposes. Factors which might influence the external validity of this study were the use of a non-probability convenience sample (Polit, & Hungler, 1994).

Setting

The setting for this study was an acute psychiatric unit at the Taipei Veterans General Hospital (VGH). The VGH is a public medical center located in the Taipei metropolitan area in Taiwan. This acute general psychiatric ward has served all psychiatric patients, including older adults, for the last two decades. The unit originally contained 31 beds and provided acute psychiatric care. Because of the increasing need for psychiatric services in the past several years, this ward was remodeled in 1995 and

has been expanded to 40 beds. Environmental improvements included an increase in lighting, the addition of siderails and monitors in community areas, and personalized bed rooms. In addition, there has been an influx of nursing staff from medical and surgical units.

Sample

The subjects for this study included all patients age 65 and over who were admitted to the unit during two 4-month time periods. Inpatients younger than 65 years of age were excluded from this study. During the first time period (Sep. - Dec., 1994), there were approximately 10 beds in this ward reserved for elderly inpatients. After the ward was remodeled in 1995 and prior to the second time period, approximately 12 beds for elderly inpatients were reserved. The number of subjects were 39 for Sep. - Dec, 1994 and 53 for Sep. - Dec., 1996 (total N = 92), indicating an increase in admission of older adults after unit modifications.

Subjects ranged in age from 65 to 99 years, with a mean age of 72 years (SD = 5.7). Subjects under 75 years old accounted for 68% of the sample. The sample was predominantly male (75%). Two-thirds of the subjects (66%) lived with their spouses, children and/ or grandchildren and only a small percentage lived alone (14%). Approximately half of the sample was married (52%). The characteristics of the sample are displayed in more detail in Table 1.

Table 1

Background characteristics of the total sample of older adults admitted to the psychiatric unit

Characteristics	n	%
Age		
65-69	37	40.2%
70-74	26	28.3%
75-79	18	19.5%
≥80	11	12.0%
Gender		
Male	69	75.0%
Female	23	25.0%
Living Situation		
Alone	13	14.1%
With spouse/ children/ grandchildren	61	66.3%
With relatives/ friends	3	3.3%
Institutional	14	15.2%
Data missing	1	1.1%

(table continues)

Table 1 Background characteristics of the total sample of older adults admitted to the psychiatric unit(continued) .

Characteristics	n	%
Marriage status		
Single	21	22.8%
Married	48	52.2%
Divorced/ separated	5	5.4%
Widowed	18	19.6%

Instruments

The category of variables on which data were collected for this study were: patient characteristics (e.g., age, gender), reasons for admission (e.g., psychiatric diagnoses, medical diagnoses) and length of stay (LOS). The specific variables in each category for are as follows. A copy of the data collection sheet is in Appendix B.

Patient characteristics

Patient characteristics included: age, gender, living situation, marital status, number of prior psychiatric admission, cognitive impairment, and self-care ability. These items were selected by the researcher based on the previous studies cited. Cognitive impairment was determined by MMSE scores (Folstein, Folstein, & McHugh, 1975), ranging from 0 - 30, when data were available. The guidelines for scoring developed by Molloy and associates (1991) were used to classify levels of impairment. Self-care ability includes: eating, dressing, bathing, toilet use, and activity

in bed. Each item had been rated on a 3-point scale according to the degree of dependence for self-care: independent (1), assisted (2), and dependent (3). Total scores can range from 5-15. Self-care was recorded by nursing staff on the unit at admission as part of the VGH Nursing History.

Reasons for admission

Psychiatric diagnosis. Psychiatric diagnoses were categorized according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Ed. (DSM-IV) (APA, 1994, 4th ed.). These categories are: (a) delirium, dementia, and amnesia & other cognitive disorders, (b) mental disorders due to a general medical condition not elsewhere classified, (c) substance-related disorders, (d) schizophrenia and other psychotic disorders, (e) mood disorders, (f) anxiety disorders, (g) somatoform disorders, (h) factitious disorders, (i) disassociative disorders, (j) sleep disorders, (k) impulse-control disorders not elsewhere classified, (l) adjustment disorders, and (m) personality disorders. Patient's diagnoses listed using previous DSM edition terminology (e.g. DSM-III-R) were converted to DSM-IV diagnoses by the researcher for coding purposes.

Medical diagnosis. Categories for medical diagnoses were coded by the researcher according to the International Statistical Classification of Diseases and Related Health Problems, tenth revision (ICD-10) (WHO, 1992) classifications. This instrument is used internationally, including in Taiwan. Items of medical diagnostic classifications included (a) certain infectious and parasitic diseases; (b) diseases of blood, blood-forming organs, and certain disorders involving the immune mechanism;

(c)endocrine/ metabolic/ nutritional; (d) nervous system; (e) digestive system; (f) diseases of eyes and ears; (g) circulatory system; (h) respiratory system;(i) diseases of the skin and subcutaneous tissue; (j) musculoskeletal system and connective tissue; (k) genitourinary system; and (l) other.

Behavioral and psychiatric symptoms. The Behavioral Symptom Checklist developed for a study of older persons at risk for psychiatric hospitalizations (Hoeffer, 1996) was used to code patient behavioral and psychiatric symptoms on admission. The behavioral categories in the checklist are a composite of observed and inferred disruptive behaviors and psychiatric symptoms included in standardized instruments used to assess older adults in community and hospital settings (Helmes, & Csapo, 1987; Overall, & Gorham, 1962; Overall, & Rhoades, 1988; Ray, Taylor, Lichtenstein, & Meador, 1992; Reisberg, et al., 1987; Sinha, et al., 1992; Teri, et al., 1992). The items in the checklist are: aggressive behavior, destruction of property, resistive/ noncompliance with care, restless/ agitation, attention-seeking behavior, sexually inappropriate behavior, problematic wandering, repetitive purposeless or inappropriate activity, intrusive behavior, withdrawn/ isolative behavior, hallucinations, anxious/ avoidant behavior, somatic concerns/ complaints, depressed mood, inappropriate/ unstable affect, increased/ decreased appetite, sleep disturbance, suicidal thoughts or behavior, and other. All "other" behaviors were listed individually and then content analysis was used to determine behavioral categories as appropriate.

Length of stay

Length of stay was counted in terms of days.

Procedure

Permission for reviewing the patient records and compilation of data were obtained from Chief of Section of General Psychiatry in the Psychiatric Department of the hospital. Data collection began with a computer search to identify the potential subjects for inclusion in the sample. The charts of the subjects were examined one at a time by the researcher to obtain data on the variables described above. All data for each subject were recorded on the data collection sheet by the researcher (Appendix B). These data were entered into the computer and analyzed by a suitable SPSS statistical program.

Protection of human subjects

This study was a retrospective review of medical records involving collection of data from patients records, not from patients themselves. Because subjects did not participate directly in this study, informed consent was not required. To insure patient confidentiality, each subject was assigned a code number which was placed on the data collection sheet. The sheets were kept in a locked file when not being used. No patient names appeared in any material for this study. After this study was completed, all data sheets were destroyed.

Analysis procedures

To answer Research Questions 1-3, descriptive statistics were used to analyze the characteristics of patients and factors associated with their hospitalization. Comparisons between the two time periods were made using the appropriate inferential statistics for categorical and continuous data. One-way analysis of variance

(ANOVA), t-tests and correlational statistics were used to examine the relationships between patient characteristics, reason for admission and length of stay.

CHAPTER 4

Results and discussion

The results of this study are presented for each research question, followed by a discussion of the findings and implications for nursing practice and future research.

Research Question 1: What are the characteristics (age, gender, living situation, marital status, self-care ability and MMSE score) of patients age 65 and older admitted during Sep. - Dec., 1994 compared to patients admitted during Sep. - Dec., 1996?

Age The comparison of subjects admitted during the two time periods in terms of "age" is found in Table 2. No statistically significant difference was found, $t = -1.31$, $df = 90$, $p = .19$.

Table 2

Comparison of older patients admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996 on age

Time period	n	M	SD	p-value
Sep.- Dec., 1994	39	71.31	5.20	.19
Sep.- Dec., 1996	53	72.89	6.06	

Gender The comparison of subjects admitted during the two time periods regarding "gender" is in Table 3. Although there was an increase in the number and percentage of female patients admitted during Sep.-Dec., 1996 (i.e., percentage

increased from 15 to 32 %), no statistically significant differences were found ($\chi^2 = 3.34$, df = 1, p = .07).

Table 3

Comparisons of gender of older patients admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Gender	n	%	n	%
Female	6	15.4%	17	32.1%
Male	33	84.6%	36	67.9%
Total	39	100.00%	53	100.00%

Living situation Table 4 presents the comparison of living situations among subjects admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996. The majority of older patients during both time periods lived with family or a significant other. Although a larger percentage admitted to the unit in the second time period lived alone, no statistically significant difference for this variable was found ($\chi^2 = 1.95$, df = 2, p-value = .38).

Table 4

Comparisons of living situation between older patients admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Living situation	n	%	n[a]	%
Alone	4	10.3%	9	17.3%
With spouse/ children/ grandchildren/ relatives/ friends	27	69.2%	37	71.2%
In institutions	8	20.5%	6	11.5%
Total	39	100.00%	52	100.00%

[a]Data missing on 1 subject.

Marital status Table 5 represents the comparison of marital status among subjects admitted during the two time periods. The categories "divorced/separated" and "widowed" were collapsed into one category because of their small percentages. No statistically significant differences were found on this variable ($\chi^2 = 3.64$, df = 2, p-value = .16), although the number and percentage of divorced/ separated/ widowed persons admitted increased (i.e., percentage doubled from 15 to 30 %). Thus, when single persons are included, more than half of the subjects admitted in the second time period were not married compared to those who were admitted in the first time period.

Table 5

Comparisons of marital status between older patients admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Marital status	n	%	n	%
Single	9	23.1%	12	22.6%
Married	24	61.5%	24	45.3%
Divorced/ separated/ widowed	6	15.4%	17	32.1%
Total	39	100.00%	53	100.00%

The number of prior psychiatric admissions, self-care ability, and MMSE scores of all older adults admitted to the psychiatric unit are displayed in Table 6. Slightly more than half of the sample (53%) had no prior psychiatric admission. Sixty-two percent of the older adults admitted to the unit were independent in self-care. Although data were missing on 31 subjects, nearly a half of the sample (45%) had moderate or severe cognitive impairment (i.e., the scores below 20).

Table 6

Number of prior psychiatric admission, self-care ability and Mini-Mental State Exam (MMSE) scores of all older patients admitted to the psychiatric unit

	n	%
Number of prior psychiatric admission		
None (0)	49	53.3%
Few (1-3)	34	37.0%
Many (≥4)	8	8.7%
Data missing	1	1.0%
Self-care ability		
Independent (5 pt.)	57	62.0%
Assisted (6-10 pt.)	22	23.9%
Dependent (11-15 pt.)	11	12.0%
Data missing	2	2.1%
Mini-Mental Status Examination scores		
0- 9	8	8.7%
10-19	26	28.3%
20-23	7	7.6%
24-30	20	21.7%
Data missing	31	33.7%

Number of prior psychiatric admissions Table 7 represents a comparison of "numbers of prior psychiatric admission" between older adults hospitalized during the two study time periods. There were no statistically significant differences between the subjects in the two groups ($\chi^2 = .21$, df = 2, p-value = .90). Slightly over half of the older adults admitted in both time periods had no prior psychiatric admissions.

Table 7

Comparisons of number of prior psychiatric admissions between older patients admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Number of prior psychiatric admissions	n	%	n[a]	%
None (0)	21	53.8%	28	53.8%
Few (1-3)	14	35.9%	20	38.5%
Many (≥4)	4	10.3%	4	7.7%
Total	39	100.00%	52	100.00%

[a]Data missing on 1 subject.

Self-care ability Comparison of "self-care ability" between subjects hospitalized during the two study time periods is represented in Table 8. There were no statistically significant differences between the two groups ($\chi^2 = 1.04$, df = 2, p-value = .59). Although the majority of older patients in both groups were rated as independent, it is

note worthy nonetheless that over one third of the subjects in both groups required some assistance with ADLs (activity of daily living functions).

Table 8

Comparisons of subjected admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996 on self-care ability

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Self-care ability	n[a]	%	n	%
Independent (5 pt.)	23	62.2%	34	64.2%
Assisted (6-10 pt.)	8	21.6%	14	26.4%
Dependent(11-15 pt.)	6	16.2%	5	9.4%
Total	37	100.00%	53	100.00%

[a]Data missing on 2 subjects.

MMSE score Table 9 represents the comparison of MMSE scores among subjects admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996. MMSE scores were available only on subjects suspected by staff on admission to be cognitively impaired (n = 61). No statistically significant differences were found on mean MMSE scores when the two groups were compared ($t = .26$, $df = 59$, $p = .79$).

Table 9

Comparisons of MMSE scores among subjected admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

Time period	n	M	SD	p-Value
Sep.- Dec., 1994	28	19.25	7.74	.79
Sep.- Dec., 1996	33	18.73	7.68	

Further findings of MMSE scores

For the 61 subjects on which there was available data of MMSE scores, the relationship between cognitive impairment (i.e., MMSE score below 24 points) and selected variables (i.e., background characteristics and reason for admission) were examined. No significant differences were found for age, gender, self-care ability, or behavioral and psychiatric symptoms. When diagnoses were examined, only the difference between patients with and without the psychiatric diagnosis "dementia, delirium, and other cognitive disorders", was statistically significant ($\chi^2 = 14.71$, $df = 1$, $p = .0001$), which was expected.

Discussion of findings of background characteristics

There appeared to be a trend toward admitting increasingly older patients reflected by the older age of patients admitted to the unit in the second time period. This is consistent with the literature that the number of aging persons in Taiwan is increasing. Also noteworthy is that there was an increase in number and percentage of older patients living alone, while there was a decrease in the number and percentage of

older patients living in institutions. This may have implication for patient disposition upon discharge. Of interest is that more divorced/ separated/ widowed older adults were admitted in the 1996 time period. This finding may reflect the slightly older age of those admitted in the second time period (i.e., increasing widowhood with age). However, their admission may be due to fewer available social supports and less available family or community-based care available these patients.

Over 50% of the older patients in each time period had no prior psychiatric admissions suggesting that the exacerbation of symptoms severe enough to result in hospitalization is a relatively new experience for most older patients and their family members. This may indicate to psychiatric nurses the importance of health education for patients and their family to assist them in understanding the illness experience and treatment regimens, as well as their involvement in caring for the older patients after discharge.

One-third of older patients for both groups were dependent or required assistance with self-care (i.e., with ADLs). This suggests that more hands-on physical nursing care is requiring of psychiatric nurses when working with geropsychiatric patients. It also supports the need for environmental modification to accommodate physical disabilities of older patients as were made in the units between the two time periods. The large portion of older patients with cognitive impairment also suggests the need for environmental modifications to prevent patient excess disability from occurring and to address behavioral symptoms.

Research Question 2: What are the reasons for admissions (e.g. psychiatric diagnoses, medical diagnoses, and behavioral psychiatric symptoms) of the older patients admitted from Sep. - Dec., 1994 compared to those admitted from Sep. - Dec., 1996?

The reasons for admission (i.e., psychiatric diagnoses, medical diagnoses, and behavioral and psychiatric symptoms) are presented in Table 10

Table 10

Reasons for admission (psychiatric diagnoses, medical diagnoses, and behavioral and psychiatric symptoms) of older patients admitted to the psychiatric unit

Reasons for admission	n	%
Psychiatric diagnoses		
Dementia, delirium, amnesia and other cognitive disorders	36	39.1%
Substance-related disorders	6	6.5%
Schizophrenia, and other psychotic disorders	20	21.7%
Mood disorders	38	41.3%
Anxiety disorders	3	3.3%
Somatoform disorders	3	3.3%
Adjustment disorders	1	1.1%
Sleep disorders	1	1.1%

(Table continues)

Table 10

Reasons for admission (psychiatric diagnoses, medical diagnoses, and behavioral and psychiatric symptoms) of older patients admitted to the psychiatric unit (continued)

Reasons for admission	n	%
Medical diagnoses		
Certain infectious and parasitic diseases	10	10.9%
Diseases of blood, blood-forming organs, and immune mechanism	1	1.1%
Endocrine/ metabolic/ nutritional	18	19.6%
Nervous system	17	18.5%
Digestive system	17	18.5%
Diseases of eyes and ears	66	71.7%
Circulatory system	40	43.5%
Respiratory system	5	5.4%
Diseases of skin and subcutaneous tissues	5	5.4%
Musculoskeletal system and connective tissues	14	15.2%
Genitourinary system	15	16.3%
Other	8	8.7%

Note. Patient could have more than one medical diagnosis; therefore, the total number and percentage can be larger than 100.

(Table continues)

Table 10

Reasons for admission (psychiatric diagnoses, medical diagnoses, and behavioral and psychiatric symptoms) of older patients admitted to the psychiatric unit (continued)

Reasons for admission	n	%
Behavioral psychiatric symptoms		
Aggressive behavior	24	26.1%
Destruction of property	3	3.3%
Resistive/ noncompliance with care	17	18.5%
Restlessness/ agitation	40	43.5%
Attention seeking	2	2.2%
Sexually inappropriate behavior	9	9.8%
Problematic wandering	15	16.3%
Repetitive purposeless or inappropriate activity	28	30.4%
Intrusive behavior	7	7.6%
Withdrawn/ isolative behavior	6	6.5%
Hallucinations	25	27.2%

Note. Patient could have more than one behavioral and psychiatric symptoms; therefore, the total number and percentage can be larger than 100.

(Table continues)

Table 10

Reasons for admission (psychiatric diagnoses, medical diagnoses, and behavioral and psychiatric symptoms) of older patients admitted to the psychiatric unit (continued)

Reasons for admission	n	%
Behavioral psychotic symptoms		
Paranoid & delusional ideation/ thinking	44	47.8%
Anxious/ avoidant behavior	8	8.7%
Somatic concerns/ complaints	18	19.6%
Depressed mood	32	34.8%
Inappropriate/ unstable affect	26	28.3%
Increased/ decreased appetite	27	29.3%
Sleep disturbance	61	66.3%
Suicidal thoughts/ behaviors	22	23.9%
Other (irrelevant speech)	7	7.6%

Note. Patient could have more than one behavioral and psychiatric symptoms; therefore, the total number and percentage can be larger than 100.

The most frequent psychiatric diagnosis was mood disorders (41.3%), followed by "dementia, delirium; amnesia and other cognitive disorders" (39.1%) and "schizophrenia and other psychotic disorders" (21.7%). Substance-related disorders, anxiety disorders, somatoform disorders, sleep disorders and adjustment disorders

were collapsed into "other" because the percentage of these diagnoses was below 10 %.

Eighty-nine subjects (96.7%) had at least one medical diagnosis. The most common medical diagnoses were "diseases of eyes and ears" (71.7%) and diseases of "circulatory system" (43.5%), followed by "endocrine/ metabolic/ nutritional" (19.6%), "nervous system" (18.5%), "digestive system" (18.5%), "genitourinary system" (16.3%), and "musculoskeletal system and connective tissues" (15.2%).

The most frequent behavioral and psychiatric symptoms were "sleep disturbance" (66.3%), "paranoid & delusional ideation/ thinking" (47.8%) and "restlessness/agitation" (43.5%), followed by "depressed mood" (34.8%), "repetitive purposeless or inappropriate activity" (30.4%), "increased/ decreased appetite" (29.3%), "inappropriate/ unstable affect" (28.3%), "hallucinations" (27.2%) and "aggressive behavior" (26.1%). Other "reasons for admission" included: medication side effects, disorientation to time and people, confusion, memory impairment, decreased self-care ability, falling down, seizure, slow movement/response, and bowel and urinary incontinence. These reasons for admission were grouped into "physical symptoms" and "cognitive symptoms. These groupings were not included in the analysis because of their small percentage.

The comparisons of psychiatric diagnoses among subjects admitted during the two study time periods are in Table 11. The percentage of subjects diagnosed with "schizophrenia and other psychotic disorders" and with "dementia, delirium, amnesia and other cognitive disorders" decreased while those with mood disorders and other

diagnoses increased. However, there were no statistically significant differences between groups when individual diagnoses were compared. In both cases, dementia-related and mood disorders are the most frequent reasons for admission.

Table 11

Comparisons of psychiatric diagnoses among subjects admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Reasons for admission	n	%	n	%
Psychiatric diagnoses				
Dementia, delirium, amnesia and other cognitive disorders	16	41.0%	20	37.7%
Schizophrenia and other psychotic disorders	10	25.6%	10	18.9%
Mood disorders	14	35.9%	24	45.3%
Other	5	12.8%	9	17.0%

Table 12 represents the comparison of medical diagnoses among patients admitted during the two time periods. The percentage of subjects with diagnoses of "endocrine/metabolic/nutritional" (e.g., diabetes) and "diseases of eyes and ears" (e.g., hearing deficit) decreased and the percentage of subjects with "musculoskeletal system and connective tissues" diagnoses (e.g., arthritis) increased between the two time

periods. However, only on "endocrine/ metabolic/ nutritional" diagnosis there was a statistically significant difference between groups.

Table 12

Comparisons of medical diagnoses among subjects admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Reasons for admission	n	%	n	%
Medical diagnoses				
Endocrine/ metabolic/ nutritional[a]	12	30.8%	6	11.3%
Nervous system	8	20.5%	9	17.0%
Digestive system	8	20.5%	9	17.0%
Diseases of eyes and ears	32	82.1%	34	64.2%
Circulatory system	15	38.5%	25	49.2%
Musculoskeletal system and connective tissues	3	7.7%	11	20.8%
Genitourinary system	7	17.9%	8	15.1%
Other	11	28.2%	14	26.4%

[a] $t = 5.40$, $df = 1$, $p = .02$

Table 13

Comparisons of behavioral and psychiatric symptoms among subjects admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Reasons for admission	n	%	n	%
Behavioral and psychiatric symptoms				
Aggressive behavior[a]	15	38.5%	9	17.0%
Resistive/ noncompliance with care	7	17.9%	10	18.9%
Restlessness/ agitation	19	48.7%	21	39.6%
Sexually inappropriate behavior	4	10.3%	5	9.4%
Problematic wandering	9	23.1%	6	11.3%
Repetitive/ purposeless or inappropriate activity	9	23.1%	19	35.8%
Intrusive behavior[b]	6	15.4%	1	1.9%
Paranoid and delusional ideation/ thinking	22	56.4%	22	41.5%
Hallucinations	10	25.6%	15	28.3%
Somatic concerns/ complaints	5	12.8%	13	24.5%
Depressed mood	11	28.2%	21	39.6%

[a] $\chi^2 = 5.38$, df = 1, p = .02; [b] $\chi^2 = 5.82$, df = 1, p = .02

(Table continues)

Table 13

Comparisons of behavioral and psychiatric symptoms among subjects admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996 (continued)

	Time period			
	Sep.- Dec., 1994		Sep.- Dec., 1996	
Reasons for admission	n	%	n	%
Behavioral and psychiatric symptoms				
Inappropriate/ unstable affect	15	38.5%	11	20.8%
Increased / decreased appetite	8	20.5%	19	35.8%
Sleep disturbance	26	66.7%	35	66.0%
Suicidal thoughts and behaviors	9	23.1%	13	24.5%
Other	12	30.8%	12	22.6%

The comparisons of subjects on behavioral and psychiatric symptoms is represented in Table 13. The percentage of subjects with behavioral symptoms of "aggressive behavior" and "problematic wandering" in 1996 was half the percentage of subjects with these behavioral symptoms in 1994. Also, the percentage of subjects with intrusive behavior dropped considerably. In contrast, the percentage of "somatic concerns/ complaints" doubled between the two time periods. However, only the differences between the two groups for the variables "aggressive behavior" and "intrusive behavior" were statistically significant.

Discussion of findings of reasons for admission

Psychiatric diagnoses

The most two common psychiatric diagnoses were "mood disorders" and "dementia, delirium, amnesia and other cognitive disorders". This result was consistent with the findings in previous studies published in the U.S. (e.g., Conwell, et al., 1989) and in Taiwan (e.g., Tsai, et al., 1995).

Medical diagnoses

It was not surprising that diseases of eyes and ears was the most frequent medical problem for the sample because older adults usually have poorer vision and auditory sense due to their aging. Diseases of the circulatory system and endocrine/ metabolic/ nutritional diseases were the second and third most common medical diagnoses, which is similar to the results in Conwell, et al.'s (1989) study. When older adults suffer from these diseases, it can be expected that the phenomena of these medical problems would complicate the treatment for this population. For example, a patient with dementia who has vision or hearing problems may present with more confusion and disorientation. The endocrine/ metabolic/ nutritional diseases can contribute to behavioral and psychiatric symptoms that may be attributed to the mental disorder. In comparing medical diagnoses between the two time periods, the difference in endocrine/ metabolic/ nutritional diseases was statistically significant. Because of the increase in age and number of women admitted during the second time period, the associations between these characteristics and the diagnoses were examined. However, neither characteristic was found to be significantly associated with the diagnosis.

Behavioral and psychiatric symptoms

It is note worthy that sleep disturbance, the most common behavioral symptom, was observed in two thirds of the sample. This finding indicates that sleep problems among older adults admitted to a psychiatric unit should be considered when developing the treatment plan, including medication use. In addition to "sleep disturbance", "paranoid ideation/ thinking" and "aggressive behavior" were two other highly prevalent symptoms. Both of these symptoms may be difficult for staff to manage as they can interfere with establishing a relationship. This suggests that the therapeutic relationship with geropsychiatric patients and appropriate interpersonal skills are critical when approaching and intervening with these patients. In comparing behavioral and psychiatric symptoms, the two groups differed on aggressive behavior and intrusive behavior. Further analysis of the association of these two behavioral symptoms and background characteristics and psychiatric diagnoses revealed that:

a) All intrusive behavior and 91.7% of the aggressive behavior was recorded for males. For aggressive behavior, a statistically significant difference between genders was found ($\chi^2 = 4.81$, df = 1, p = .03).

b) For aggressive and intrusive behaviors, 68% was recorded for older patients with some degree of cognitive impairment (i.e., MMSE scores below 24).

c) Older patients diagnosed with mood disorders tended to have less aggressive behavior ($\chi^2 = 5.61$, df = 1, p = .02) while older patients diagnosed with "dementia, delirium and other cognitive disorders" had more aggressive behavior ($\chi^2 = 3.08$, df = 1, p = .08). For intrusive behavior, no

significant differences were found between groups for each psychiatric diagnosis.

Research Question 3: What is the length of stay for the older patients admitted from Sep. - Dec., 1994 compared to those admitted from Sep. - Dec., 1996?

Three subjects were excluded from the analysis for this variable because of leaving the unit prematurely due to complicated medical problems or personal reasons. The length of stay (LOS) for all other subjects ranged from 3 to 62 days. The mean LOS was 29.34 days; SD was 13.19 days. The largest portion (33.7%) of the sample remained in the hospital 15-28 days (i.e., 2-4 weeks). However, an almost equal portion (32.6%) of the sample had an LOS between 29 and 42 days (i.e., 4-6 weeks). Table 14 displays the data on length of stay for the sample.

Table 14

Length of stay for total sample of older patients admitted to the psychiatric unit[a]

Length of stay (in days)	n	%
1-14	11	12.0%
15-28	31	33.7%
29-42	30	32.6%
43-63	17	18.5%
Missing[a]	3	3.3%

[a]Data were missing on 3 subjects.

The comparison of LOS among subjects admitted during the two time periods is represented in Table 15. The mean LOS and SD of subjects hospitalized in Sep.-Dec., 1996 was slightly longer than in Sep.-Dec., 1994, but the difference was not statistically significant ($t = -1.10$., $df = 87$, $p = .27$).

Table 15

Comparison of length of stay between older adults admitted during Sep.- Dec., 1994 and Sep.- Dec., 1996 [a]

	n	M	SD	P
Time period				.27
Sep.- Dec., 1994	38	27.55	12.73	
Sep.- Dec., 1996	51	30.67	13.49	

[a] N = 89; data missing on three subjects.

Discussion of finding of length of stay

Of the entire sample, 45.7% of patients were discharged within a month after their admission. Still 51.1% of older adults admitted to the unit had a LOS longer than four weeks. The effectiveness of treatment and arrangement of disposition after discharge may be factors contributing to LOS, but they were not examined in this study. Although there was no significant difference between groups, the LOS in the second time period, which was after the psychiatric unit was remodeled, was longer. This might be explained by the increased number of older patients with mood disorders admitted in the second time period. This finding is consistent with previous studies (Conwell, et al, 1989; Tsai, et al, 1995) indicating that patients with dementia and

other organic mental disorders had shorter LOS than patients with mood disorders. Further study is indicated to compare the differences of mean LOS among the psychiatric diagnoses and the factors that may contribute to LOS for older adults admitted to inpatient psychiatric units.

Research Question 4: What patient characteristics and reasons for admission are associated with length of stay?

Findings on factors associated with LOS

The MMSE scores were not used in the analysis of LOS due to the missing data on 31 subjects. The analysis to address this research question was conducted using the entire (N = 92) because few differences were found to be statistically significant between groups described in aforementioned findings.

Table 16 presents the ANOVA results for LOS and sample characteristics. Interestingly, among the three "age" groups, the younger group had the longest mean LOS. Subjects living in institutions had a longer length of hospital stay compared with subjects living "alone" and "with spouse/ children/ grandchildren/ relatives/ friends". Older patients who were dependent in self-care had a longer LOS. Older patients who had been hospitalized many times had the longest LOS. However, there was no statistically significant difference in the mean LOS between groups for each characteristic variable.

Table 16

ANOVA results on length of stay and sample background characteristics of the total sample of older adults admitted to the unit[a]

Background characteristics	M length of stay	F-ratio	p-value
Age		1.40	.25
65-69	31.11		
70-74	30.70		
≥75	26.00		
Living situation		0.93	.40
Alone	29.09		
With spouse/ children/ grandchildren/ relatives/ friends	28.48		
In institutions	32.25		
Marital status		0.14	.87
Single	30.29		
Married	29.47		
Divorced/ separated/ widowed	28.22		

[a]N = 89; data missing on three subjects.

(Table continues)

Table 16

ANOVA results on length of stay and sample background characteristics of the total sample of older adults (continued)[a]

Background characteristics	M length of stay	F-ratio	p-value
Number of prior psychiatric admission		0.26	.77
None	29.09		
Few	28.48		
Many	32.25		
Self-care ability		0.41	.66
Independent	29.11		
Assisted	29.35		
Dependent	33.20		

[a]N = 89; data missing on three subjects.

The correlations between LOS and psychiatric diagnoses are displayed in Table 17. Diagnoses of "dementia, delirium, and amnesia" and "schizophrenia and other psychiatric disorders" had a slightly negative correlation with LOS while diagnosis of "mood disorder" had a weakly positive correlation with LOS. However, the correlation between LOS and each psychiatric diagnosis was not statistically significant.

Table 17

Correlation between length of stay and psychiatric diagnoses for total sample of older adults[a]

Psychiatric diagnoses	Pearson's r	p-value
Dementia, delirium, and amnesia	-.08	.45
Schizophrenia and other psychotic disorder	-.11	.29
Mood disorders	.14	.19
Other	.06	.60

[a]N = 89; data missing on three subjects.

Table 18 represents the correlations between LOS and medical diagnoses. The medical diagnoses of "nervous system" and "digestive system" had slightly positive correlations with length of stay. For each diagnosis, no statistically significant correlation with LOS was found.

Table 18

Correlation between length of stay and medical diagnoses[a]

Medical diagnoses	Pearson's r	p-value
Endocrine/ metabolic/ nutritional	-.05	.66
Nervous system	.11	.29
Digestive system	.12	.26
Diseases of eyes and ears	.02	.85
Circulatory system	.07	.49
Musculoskeletal system	-.01	.96
Genitourinary system	.09	.39
Other	.11	.29

[a]N = 89; data missing on three subjects.

The correlations between LOS and behavioral and psychiatric symptoms are in Table 19. The "other" behavioral symptoms for this analysis included: destruction of property, attention seeking, withdrawn/ isolative behavior, anxious/ avoidant behavior, and irrelevant speech. These symptoms were collapsed into the "other" category because of the infrequency of their occurrence. Among all behavioral and psychiatric symptoms, "paranoid and delusional ideation/thinking" was modestly associated with LOS ($r = .21$, $p = .04$). There were no statistically significant correlations between LOS and the other symptoms, although two behavioral symptoms also showed modest correlations with LOS: "sexually inappropriate behavior" ($r = .20$, $p = .06$) and "problematic wandering" ($r = .19$, $p = .07$).

Table 19

Correlation between length of stay and behavioral psychiatric symptoms[a]

Behavioral psychotic symptoms	Pearson's r	p-value
Aggressive behavior	.12	.28
Resisted/ noncompliance with care	.08	.43
Restlessness/ agitation	.13	.21
Sexually inappropriate behavior	.20	.06
Problematic wandering	.19	.07
Repetitive purposeless or inappropriate activity	.04	.70
Intrusive behavior	-.01	.92
Paranoid and delusional ideation/ thinking	.21	.04*
Hallucinations	.08	.47
Somatic concerns/ complaint	-.16	.14
Depressed mood	-.10	.35
Inappropriate/ unstable affect	-.02	.83
Increased/ decreased appetite	.01	.89
Sleep disturbance	.10	.34
Suicidal thoughts/ behaviors	.02	.86
Other	.003	.98

[a]N = 89; data missing on three subjects.

*$p<.05$

Discussion of finding on factors associated with LOS

Background characteristics

Although there was no significant difference in mean LOS for the three age groups, it was interesting that the older age group had a shorter LOS. As a previous study suggested, the prevalence of dementia increases with aging. The older group might have more older patients diagnosed with dementia which was suggested to be associated with shorter LOS. The subgroup of older patients living in institutions were all veterans. They had the longest LOS which could be due to issue related to disposition after discharge. As one could predict, older patients who had many prior psychiatric admissions had a longer LOS perhaps because their psychiatric illness and/ or symptoms were more difficult to manage. It was not surprising that older patients who were more dependent in self-care ability had a longer LOS. The loss of ADL functioning could be caused by more severe psychiatric or medical illnesses, indicating the need for more intensive nursing care.

Reasons for admission

The finding of a slight correlation between mood disorder and LOS was consistent with the findings of Conwell, et al.(1989) which suggested that patients with a mood disorder had longer LOS. The result of the slightly negative correlation between LOS and dementia was similar to the findings of Tsai, et al.(1995) that suggested a shorter LOS is associated with dementia and other cognitive disorders compared to affective disorders and schizophrenia. Among the behavioral and psychiatric symptoms, only three symptoms (sexually inappropriate behavior,

problematic wandering, and paranoid and delusional ideation/ thinking) were modestly correlated to longer LOS. This findings suggests a need for appropriate environmental stimuli and a safe unite environment in order to reduce confusion and disorientation, and assure safety of geropsychiatric patients.

In summary, few variables were found to be associated with LOS. There is a possibility that some variables contributed together to extend the subject's LOS. A larger sample size is also needed. Further study of factors associated with length of stay based on a conceptual framework and advanced statistical analysis is needed.

CHAPTER 4

Summary, Conclusion, and Implications

Summary and Conclusion

This exploratory study examined data on 92 older adults who were admitted to the Veterans General Hospital acute psychiatric unit during Sep.-Dec., 1994 and Sep.-Dec., 1996 in Taipei, Taiwan. The purpose of this study was to explore background characteristics, the reasons for admission, length of stay, and the association between length of stay and the aforementioned factors. The findings indicated that a high percentage of geropsychiatric inpatients had at least one medical problems in addition to a psychiatric diagnosis. "Mood disorders" and "dementia and other cognitive disorders" were the two most common psychiatric diagnoses. "Mood disorders" was slightly correlated with longer LOS while dementia and schizophrenia were slightly negatively correlated with LOS. Three behavioral and psychiatric symptoms had modest correlations with LOS: paranoid and delusional ideation/ thinking, sexually inappropriate behavior, and problematic wandering. Nearly 40% also required some assistance with self-care or activities of daily living, and a significant portion (66%) had a sleep disturbance.

The implications of this study for the geropsychiatric patients will be discussed after limitations of the study are briefly described.

Limitations of the study

The major limitation of the study is that it used retrospective data obtained from medical recorders. Because it was exploratory in nature, no conceptual

framework was used to guide the study. This limited the ability of the researcher to test hypotheses about predictor and outcome variables. Moreover, no data were collected on treatment factors that might have influenced LOS or on specific events occurring between the two time periods that could influence changes in admission.

Implications for nursing practice and future research

The research findings support that there is a high prevalence of medical problems among this sample of geropsychiatric patients. Two-thirds suffered from sleep disturbance also. One-third of the sample had some degree of dependency in self-care due to physical problems or psychiatric symptoms. A Taiwanese psychiatric nurse must be aware that more medical surgical knowledge and "hands-on" physical care skills will be required when working with older patients.

Knowledge of reasons for admission gained from this study, especially common behavioral and psychiatric symptoms, can be helpful for psychiatric nurses in developing suitable treatment goals and behavioral strategies to reduce the prevalence of behavioral and psychiatric symptoms. Environmental design and stimuli also need to be considered. Further study is suggested to explore the use of environmental modification for reducing the problematic behaviors of older patients in an acute psychiatric unit and the effectiveness of specific behavioral strategies so that psychiatric nurses can assure the safety of themselves and other inpatients on the unit.

In addition, stress in the workplaces is suggested in the literature to be an important associated factor with burnout among nurses. It is not unusual that psychiatric nurses experience more stress when caring for patients who are aggressive.

Few studies have been conducted specifically to investigate experiences and stress of psychiatric nurses working in acute psychiatric units with older adults. Future nursing research is suggested to investigate whether burnout as an issue for psychiatric nurses working with older patients in Taiwan, and if so what factors are associated with this experience.

References

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders, (4th ed.). Washington, DC: Author.

Astrome, S., Nilsson, M., Norberg, A., Sandman, P, & Winblad, B. (1991). Staff burnout in dementia care-Relations to empathy and attitudes. International Journal of Nursing Study, 28(1), 65-75.

Billig, N. & Leibenluft, E. (1987). Special considerations in integrating elderly patients into a general hospital psychiatric unit. Hospital and Community Psychiatry, 38(3), 277-281.

Chen, K., Wang, T., & Chen, W. (1986). Causes and consequences of population change in Taiwan. Journal of Population Studies in Republic of China, 9, 1-23. (in Chinese)

Cohen, C. I. & Casimir, C. J.(1989). Factors associated with increased hospital stay by elderly psychiatric patients. Hospital and Community Psychiatry, 40(7), 741-743.

Conwell, Y., Nelson, C., Kim, K. & Mazure, C. (1989). Elderly patients admitted to the psychiatric unit of a general hospital. Journal of American Geriatric Society, 37(1), 35-41.

Duquette, A., Kerouac, S., Sandhu, B. K., & Beaudet, L. (1994). Factors related to nursing burnout: A review of empirical knowledge. Issues in Mental Health Nursing, 15, 337-358.

Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. Journal of Psychiatry Research, (12), 189-198.

Ford, C. V., Spar, J. E., Davis, B., & Liston, E. H. (1980). Hospital treatment of elderly neuropsychiatric patients. I. Initial clinical and administrative experience with a new teaching ward. Journal of the American Geriatric Society, 28(10), 446-450.

Greene, J. A., Wagner, J., & Johnson, W. (1994). Development of a geropsychiatric unit. Southern Medical Journal, 87(3), 392-396.

Hartmairer, S. L., Sloane, P. D., Guess, H. A., & Koch, G. G. (1994). The MSD Cognition Scale: A valid instrument for identifying and staging nursing home residents with dementia using the Minimum Data Set. Journal of the American Geriatric Society, 42, 1173-1179.

Helmes, E., Csapo, K. G., & Short, J. A. (1987). Standardization and validation of the Multidimensional Observation Scale for Elderly Subjects (MOSES). Journal of Gerontology, 42, 395-405.

Hoeffer, B. (1996). OABC Behavioral Symptom Checklist. Unpublished instrument. Portland, OR. (used with permission of author).

Ingstad, P. J., & Gotestam, K. G. (1987). Staff attitude changes after environmental changes on a ward for psychogeriatric patients. The International Journal of Social Psychiatry, 33(3),237-244.

Kujawinski, J., Bigelow, P., Diedrich, D., Kikkebusch, P., Korpan, P., Walkczak, J., Maxson, E., Ropski, S., & Farran, C. (1993). Research considerations: Geropsychiatry unit evaluation. Journal of Gerontological Nursing, 19(1), 5-10.

Lyons, J. S. (1992). Psychiatric hospitalization of older adults: Comparison of a specialty geropsychiatric unit to general psychiatric units. Clinical Gerontologist, 12(2), 3-17.

Molloy, D. W., Alemayehu, E., & Roberts, R. (1991). Reliability of a standardized Mini-Mental State Examination compared with the traditional Mini-Mental State Examination. American Journal of Psychiatry, 148(1), 102-105.

Overall, J. E., & Gorham, D. R. (1962). The Brief Psychiatric Rating Scale. Psychological Reports, 10, 799-812.

Overall, J. E., & Rhoades, H. M. (1988). Clinician-rated scales for multidimensional assessment of psychopathology in the elderly. Psychopharmacology Bulletin, 24, 587-594.

Polit, D. F., & Hungler, B. P. (1994). Nursing research: principles and methods, (5th ed.). Philadelphia: J. B. Lippincott.

Ray, W. A., Taylor, J. A., Lichtenstein, M. J., & Meador, K. G. (1992). The Nursing Home Behavior Problem Scale. Journal of Gerontology, 47, M9-M16.

Reisberg, B., Borenstein, J., Salob, S. P., Ferris, S. H., Franssen, E., & Georgotas, A. (1987). Behavioral symptoms in Alzheimer's disease: Phenomenology and treatment. Journal of Clinical Psychiatry, 48(5), (suppl), 9-15.

Sheline, Y. I. (1990). High prevalence of physical illness in a geriatric psychiatric inpatient population. General Hospital Psychiatry, 12, 396-400.

Sihna, D., Zemlan, F. P., Nelson, S., Bienenfeld, D., Thienhaus, O., Ramaswamy, G., & Hamilton, S. (1992). A new scale for assessing behavioral agitation in dementia. Psychiatry Research, 41, 73-88.

Spar, J. E., Ford, C. V., & Liston, E. H.(1980). Hospital treatment of elderly neuropsychiatric patients. II. Statistical profile of the first 122 patients in a new teaching ward. Journal of the American Geriatric Society, 28(12), 539-543.

Teri, L., Truax, P., Logsdon, R.; Uomoto, J., Zarit, S., & Vitalino, P.(1992). Assessment of behavioral problems in dementia: the Revised Memory and Behavior Problems. Checklist. Psychology and Aging, 7(4), 622-631.

Tillman-Jones, T. K.(1990). How to work with elderly patients on a general psychiatric unit? Journal of Psychosocial Nursing, 28(5), 27-31.

Tsai, S. J., Hwang, J. P., & Sim, C. B.(1995). Characteristics of elderly patients admitted to the psychiatric ward of a general hospital. Kaohsiung Journal of Medical Sciences, 11(8), 453-457. (in Chinese)

Wagner, J. M.(1995). Inpatient geropsychiatric nursing in a general hospital. In M. O. Hogstel (Ed), Geropsychiatric nursing. (2nd ed.). (pp. 263-291). St. Louis: Mosby.

World Health Organization. (1992). International statistical classification of diseases and related problems, Tenth revision. Geneva: Author.

Appendix A

Summary of Literature

Author	Sample	Description	Result
Cohen, & Casimir (1989)	108 patients who consecutively admitted in a geriatric unit In a large psychiatric state hospital in New York City were included in a 3-year time period. 62% female 87% voluntary admission Average length of stay: 177 days with 197-day SD, range from 2-790 days Mean age : 70, range from 58-87 34% married 58% living with relatives DSM-III diagnoses: schizophrenic disorder(42%), organic mental syndromes (25%), depressive disorder(15%), and other disorders(18%).	To examine factors associated with length of hospital stay for the geropsychiatric population who were admitted to an urban state geropsychiatric facility. Patients' charts were reviewed for additional demographic, clinical, and social data A total of 21 variables were identified that had been found to be significant in earlier studies of general psychiatric populations.	The 21 variables accounted for 28.5% of the explained variance in length of stay. Only four variables were significantly associated with length of hospital stay in this geriatric sample: inability to return to the preadmission setting(the non-clinical variable), concomitant medical condition, suicidal ideation, and depressed mood. The concomitant medical condition variable accounted for the greatest variance of LOS. Four variables were significantly associated with inability to return to the preadmission setting: age, concomitant medical condition, being unmarried, and having hallucinations,

Author	Sample	Description	Result
Conwell, Nelson, Kim, & Mazure (1989)	168 patients aged 60 years old or older discharged from the psychiatric unit in a university general hospital over a 54-month time period were studied. Mean age: 69.7 with a range 60-86 73.2% female Average of length of stay: 53.3 days Most (44.0%) lived with spouses or alone(29.2%) before admission.	To develop a demographic and clinical profile of the population in this setting. A retrospective medical records review to obtain data which included demographic data, DSM-III diagnosis, personal and family histories of illness, stressors within the year before admission, scales constructed for rating symptoms severity, functional status, and social performance.	Diagnoses: 128(76%) had a primary affective disorder; organic brain syndrome was the second most common diagnosis. 41 had a primary or secondary dementia. LOS: In dementia group, LOS was significantly shorter for all patients with a primary or secondary dementia than for without dementia. In depressive group, LOS was significantly related to the diagnostic subtypes of the depressive disorders Medical illness: the most common medical illnesses were hypertension(38.3%), cardiac disease (34.7%),neurological condition (31.1%), followed by cancers (17.4%), diabetes mellitus (13.8%), COPD (13.2%) and hypothyroidism (9.0%). At least one medical illness was noted in 78.4% of the sample. 47% of patients had two or more, 23% had three or more medical illnesses. Confusion on admission was present in 2.7% of patients.

Author	Sample	Description	Result
			Stressors: the most frequent stressor was a change in the patient's medical status, present in 51.5% of the sample, followed by a change in medical status of spouse, change in living situation, marital discord, death of someone close to the patient other than their spouse. Treatment outcome: More than half of the sample that received somatic treatment had a good response, which was a retrospective judgment based on clinical observations. The findings suggested that acute psychiatric illness of the elderly can be treated in an acute setting with a favorable outcome.

Author	Sample	Description	Result
Engelhart, & Eisenstein (1996)	64 veterans comprised the sample. All male 22 open ward patients, 20 closed ward patients. Mean age: 69 years	To examine the extent to which cognitive factors, along with basic coping skills and problem behaviors, contribute to placement within the continuously supervised, closed section of a geropsychiatric unit. The Neurobehavioral Cognitive Status Examination (NCSE) and a Ward Behavior Inventory (WI) were used to assess the patients' psychological and behavioral functioning.	Greater structure was associated with the risk for wandering behaviors. A strong inverse relationship between the WI scale and the NCSE scale was observed. This implicated that poor orientation was associated with risk for wandering. The findings suggested that geropsychiatric inpatients are most at risk for placement in a locked unit if they become more impaired and unable to maintain a consistent temporal orientation. The findings suggest that a level of cognitive deficit is seen that seriously impair is a criterion for placement on a closed ward.

Author	Sample	Description	Result
Greene, Wagner, & Johnson (1994)	The first 100 patients admitted to a newly opened geropsychiatric 9-bed unit during the first six months	To analyze demographic and clinical patient characteristics and to obtain descriptive data. A retrospective chart review to obtain data which included sex, age, diagnoses, scores obtained on the Short Portable Mental Status Questionnaire (SPMSQ) and the Short Psychiatric Evaluation Scale (SPES), & living situation before and after hospitalization.	55% female mean age of 74.9 years old, with age range 51-90 average length of stay (LOS): 9.5 days, with a range of 2-24 days. SPMSQ scores obtained from 54 available patients: mean score of 5.67 on admission and 5.58 at discharge SPES: mean score of 5.39 on admission and 3.45 at discharge Two most common discharge diagnoses were Alzheimer's disease and Major Depression Living situation: prior to admission, 90% living at home, 10% living at nursing homes; at discharge, 10 patients admitted from nursing homes returned to the same places, 10 of the 90 home-bound patients were transferred to nursing homes, one died during hospitalization, one was sent to other living facilities, the others returned to home. Most of these patients had one or more chronic physical conditions such as DM, hypertension, arthritis, etc..

Author	Sample	Description	Result
Kujawinski, Bigelow, Diedrich, Kikkebusch, Korpan, Walczak, Maxson, Ropski, & Farran (1993)	57 objects completed the study out of the 87 subjects admitted in a 21-bed geropsychiatric unit during a six-month time period. 89% female mean age: 78.5 years old average length of stay: 28 days LOS range: 8-52 days The most frequent diagnoses were major depression (75%), bipolar disorder (13%), and psychotic depression (12%). The most common concurrent medical diagnoses included dementia (33%), hypertension (10%), non-insulin dependent diabetes mellitus (8%).	To measure the effect of the geropsychiatric unit therapeutic milieu on the cognitive and functional status of the geropsychiatric patient. Mini-Mental Status Examination (MMSE) was used to assess the cognitive function within 24 hr. after admission and again within 48 hr. of discharge; the Geriatric Psychiatric Nurse Rating Scale (GPNRS) was administrated three times to assess functional changes over the course of the hospitalization: within the first five days of admission, within 5 days prior to discharge, & two weeks after discharge.	The data support the hypothesis that there would be a positive change in geropsychiatric patients' cognitive and functional assessment scores during and later hospitalizations. Multiple medical diagnoses were common among this sample.

Author	Sample	Description	Result
Lyons, Pressman, Pavkov, Salk, Larson, & Finkel (1992)	4,377 patients hospitalized on either a specialty geropsychiatric unit or a general psychiatric inpatient unit over a six-year period. Of the 3,723 patients hospitalized in two general psychiatric units, 530 were 55 years old or older. 653 inpatients were admitted to the specialty geropsychiatric unit during the same time.	To compare younger patients to older patients on diagnostic, demographic, and service data. Older patients from the general psychiatric units and the geropsychiatric unit were compared in the analysis.	Comparison between units of all patients admitted: The older patients on the two general psychiatric units had a significantly longer length of stay than the patients less than 55 years old. Diagnostically, the geriatric unit had more dementia and affective disorders, and less schizophrenia, non-organic psychoses, and anxiety disorders. Comparison between units of patients older than 55: The mean age of those on the specialty unit is higher. A significant higher frequency of depression and dementia occurred on the specialty unit. With regard to length of stay, individuals on the specialty unit had significantly longer hospitalizations than did those on the general units.

Author	Sample	Description	Result
Moak (1990)	78 Patients contained the initial sample, 6 died during the follow-up year were excluded from the analysis. 42 male; 26 female mean age: 71.4	To compare characteristics of discharged and nondischarged patients from a state hospital. Data came from a standardized, structured survey in a 75-bed psychogeriatric service in a state hospital. The data collected included DSM-III diagnoses, behavioral symptoms, Abnormal Involuntary Movement Scale, MMSE, & a rating scale for activities of daily living.	DSM-III diagnoses included primary degenerative dementia (20%), schizophrenia (17%), mixed organic brain syndrome (14%), bipolar disorder, manic, major depressive disorder, dementia associated with alcohol abuse, multi-infarct dementia, and other dementia. 32 patients (44%) had been discharged. Compared with non-discharged patients, discharged patients were more delusional, less assaultive, less cognitively impaired, and more likely to be able to communicate their needs to staff. Patients who remained in the hospital were more likely to never have been married. Having a guardian and good financial assets seemed to be important factors associated with discharge. The psychogeriatric patients had multiple and overlapping health problems.

Author	Sample	Description	Result
Sheline (1990)	95 patients aged 60 and older who were hospitalized on a lock 74-bed unit for acute psychiatric care in a 15-month period.	To find out the prevalence of concurrent physical illness in the population of geriatric psychiatric inpatients. Data were obtained from a retrospective chart review. Those data included psychiatric diagnoses, medical problems, the number of prescribed medications at discharge.	Average length of stay: 23 days 60% female among the population Range of age: 60-85 years old, no mean age was reported Most frequent diagnoses at discharge were mood disorders, organic mental disorders, and schizophrenia. 91.5% had one or more significant medical problems; the most common medical conditions were cardiovascular, neurologic, genitourinary, respiratory, and gastrointestinal. Average number of medical problems was 1.9 with 1.1 SD The most commonly prescribed total number of medications was two.

Author	Sample	Description	Result
Tsai, Hwang, & Sim (1995)	524 elderly patients consecutively admitted to two 31-bed general psychiatric wards in a medical center in Taipei over a five-year time period were included.	To examine characteristics, diagnostic classification and treatment outcomes of the inpatients age over 65 years. This retrospective study was conducted by reviewing the patient medical records.	The majority of these elderly inpatients was male (82.3%). Range of age: 65 - 95 years old.; mean age was 72.1 years. Average length of stay was 26.7. According to the DSM-III-R, 45.9% of the elderly inpatients had organic medical disorders; organic mental disorders and mood disorders were the two most common diagnoses. Treatment outcomes showed positive response to hospitalization in general psychiatric units in most of these elderly inpatients.

Appendix B

Data Collection Sheet

Data Collection Sheet

Variables: [a]

1. ID number: _____

Demographic characteristics:

2. Length of stay: _____(days).

3. Number of prior psychiatric admission: _____

4. Cognitive impairment:

MMSE = _____

5. Age: _____(years)

6. Sex: ___

Female = 0

Male = 1

7. Living situation: ____

Alone = 1

With spouse and/ or children, grandchildren = 2

With friends/ relatives = 3

In institutions = 4

Other = 5

8. Marital status: ____

Single = 1

Married = 2

Divorced/ Separated = 3

widowed = 4

9. Scores of self-care ability:

_____(5-15 pt.)

[a]: Missing data: -9 will be entered for all variables on which there are missing data.

Psychiatric diagnosis: (No = 0; Yes =1)

10. Delirium, dementia, & Amnesia & other cognitive disorders: ____

11. Mental diseases due to a general medical condition not elsewhere classified: _____

12. Substance-related disorders: _____

13. Schizophrenia & other psychotic disorders: _____

14. Mood disorders: _____

15. Anxiety disorders: _____

16. Somatoform disorders: _____

17. Factitious disorders: _____

18. Sleep disorders: _____

19 Impulse-control disorders not elsewhere classified: _____

20. Adjustment disorders: _____

21. Personality disorders: _____

Medical diagnosis: (Yes = 1; No = 0)

22. Certain infectious and parasitic diseases: _____

23. Diseases of blood, blood-forming organs, and certain disorders involving the immune mechanism: ____

24. Endocrine/ metabolic/ nutritional: ____

25. Nervous system: ___

26. Digestive system: _____

27. Diseases of eyes and ears: ____

28 Circulatory system: ___

29 Respiratory system: ____

30 Diseases of the skin and subcutaneous tissue: ___

31. Musculoskeletal system and connective tissue: ____

32. Genitourinary system: ____

33. Other: ____

Behavioral psychiatric symptoms on admission: (No = 0; Yes = 1)

34. Aggressive behavior: ____

35. Destruction of property: ____

36. Resistive/ Noncompliance with care: _____

37. Restless/ agitation: ____

38. Attention-seeking behavior: ____

39. Sexually inappropriate behavior: _____

40. Problematic wandering: _____

41. Repetitive purposeless or inappropriate activity: _____

42. Intrusive behavior: _____

43. Withdrawn/ isolative behavior: _____

44. Paranoid and delusional ideation/ thinking: ____

45. Hallucinations: ____

46. Anxious/ avoidant behavior: _____

47. Somatic concerns/ complaints: _____

48. Depressed mood: _____

49. Inappropriate/ unstable affect: ____

50. Increased/ decreased appetite: _____

51. Sleep disturbance: _____

52: Suicidal thoughts or behavior: ____

53. Other: _____