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Impact Of Follow-Up Encounters By A Geriatric Nurse Clinician On Return Visits To The Emergency Department By Elderly Clients

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IMPACT OF FOLLOW-UP ENCOUNTERS BY A GERIATRIC
NURSE CLINICIAN ON RETURN VISITS TO THE
EMERGENCY DEPARTMENT BY ELDERLY CLIENTS

by

LYNN SMITH

A Thesis
Submitted in partial fulfillment of the requirements
for the Degree of Master of Science in Nursing
in the Division of Nursing
Mississippi University for Women

COLUMBUS, MISSISSIPPI

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Impact of Follow-Up Encounters by a Geriatric
Nurse Clinician on Return Visits to the
Emergency Department by Elderly Clients

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Dedication

This study is dedicated to my sons, Josh and Jake, who have always wanted me to finish school.

Acknowledgements

I wish to extend my sincere appreciation to Dr. Mary Pat Curtis for her wisdom, support, time, and guidance during my graduate studies and the development of this thesis.

Thanks to Peggi Seaman, member of my research thesis committee, who has always provided positive encouragement.

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Very special and loving thanks are offered to my husband, Harold. Thanks not only for his love and patience but also for his unfailing faith in me.

I would also like to thank a special friend, Carol Smith, who helped me relieve my "stress" during this graduate program.

Abstract

Wiedenbach's Theory of Nursing as the helping art was the framework for this quasi-experimental study. This study sought to determine the effects of a follow-up encounter by a Geriatric Nurse Clinician on return visits to the emergency department by elderly clients. A nonprobability quota sampling consisted of elders, 65 to 92 years of age with chronic health problems, who utilized the emergency department of a 474-bed urban hospital. Thirty subjects were randomly assigned to three equal groups: Groups A and B received either a telephone call or a home visit, while Group C received no follow-up encounter. Demographic data were collected from medical records of subjects in all three groups. A researcher-developed 8-item questionnaire was used to assess needs and intervention on subjects in Groups A and B. Hospital and emergency department admission logs were monitored for return visits of all subjects 7 days post-discharge from the emergency department. Chi-square statistics were used to analyze data.

The researcher hypothesized that the return rate of elderly clients to the emergency department would positively correlate to follow-up encounters by a Geriatric Nurse Clinician. Since $X^2(3, N = 30) = .58, p < .05$, no

statistically significant relationship in the rate of return visits and follow-up encounters among three groups were noted.

However, additional findings revealed that the elders had a preference for the emergency room physician, and there was a lack of comprehensive histories and discharge planning for elders who utilized the emergency department. These conclusions indicate that the GNC may be a valuable asset in the emergency department to act as advocator primary health care provider, consultant for referrals, and researcher to improve the quality of health care for the elder. Recommendations include replication of the study with a larger sample using a time series design and implementation of a study which focuses on the significant others role to further validate Wiedenbach's (1964) theory.

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Chapter I

The Research Problem

Elders are being discharged from many health care facilities before a cure is affected (Selker & Broski, 1988). In addition, elders are not readmitted until their illness becomes critical. Length of hospital stay for Medicare beneficiaries has been decreased 1 to 2% annually for several years and dropped 9% in 1984, along with a 3.5% decrease in admission rate (Jones, Densen, & Brown, 1989). Since 1987, the percent of patients receiving Medicare funds who have been discharged from hospitals as medically unstable rose from 10.3% to 14.7% (Mattera, 1990). Hospital providers blame inadequate Medicare reimbursements based on the prospective payment system for the poor quality of elder's health care. In an attempt to decrease expenditure, hospitals have reduced inpatient services for the elderly patient without providing a satisfactory alternative (Updaw, 1987).

The focus of this study was on the impact of health care for the elder who utilizes the emergency department as an alternative source of primary health care. This study was to evaluate the effects of follow-up encounters by a

Geriatric Nurse Clinician (GNC) on the return rate of the elder after initial visit to the emergency department.

Introduction to the Problem

The reduction of inpatient care for elders has increased their utilization of emergency departments for all health concerns (Updaw, 1987). Adding to the increased utilization of emergency departments as an alternative health care service is the 65 years and older group. In 1980, 11.3% (more than 25.5 million) of the United States' population was 65 years and older. By 2000, this group is expected to number more than 35 million or 13.1% of the total population (Eliastam, 1989). Also, the 65-year and older age group accounts for one third of the country's total personal health care expenditures (Jecker & Pearlman, 1989). A survey by the National Medical Care Utilization and Expenditure noted that persons with an income of less than \$5,000 had 19.4% of their visits in the emergency department versus 9.3% of persons with an income above \$25,000 (Hurley, Freund, & Taylor, 1989).

Based on over-utilization, new centers increased at an average annual rate greater than 85% from 1981 to 1985 and were expected to increase by an average annual rate of 17% between 1985 and 1990 (Updaw, 1987). The increase in the need for more emergency centers has been attributed to the premature discharge of elders who need continued care. Jones et al. (1987) assessed post-hospital need of the

elderly patient and found that 63% of patients at discharge did not have a referral for help and 53.1% reported no knowledge of community resources.

In 1980, it was estimated that 85% of the 31.9 million emergency department visits were for nonlife-threatening conditions (Berkman & Abrams, 1986). Care provided in emergency departments is focused on episodic emergency treatment. However, due to misuse of these facilities a substantial amount of primary care is provided for patients who do not have established relationships with alternative health care professionals (Baum & Rubenstein, 1987). The fast pace of a busy emergency department does not facilitate communication or comprehensive assessment of the patient (Eliastam, 1989). Thus, the quality of care for the elderly population increases adverse outcomes. Recent research studies (Ettinger, Casani, Coon, Muller, & Piazza-Appel, 1987; Keith, Bocka, Kobernick, Krome, & Ross, 1989) document that patients 75 years and older were subsequently rehospitalized after discharge from the emergency department at a rate of 29%, which is twice that of a younger group. Further, the elder also reported worse short-term outcome after discharge from the emergency department (Denman, Ettinger, Zarkin, Coon, & Casani, 1989).

Based on the supported studies (Denman et al., 1989; Jones et al., 1987; Naylor, 1990), elders are at high risk for poor post-discharge outcomes from the emergency

department and the hospital, indicating a need for improved health care for the elderly population. Preventive home care has been documented as an alternative health care measure which minimizes the use of hospitals for treatment and promotes quality of care. Interventions by a gerontological nurse specialist focusing on discharge planning and home visits of elders have minimized the threat of rehospitalization, decreased post-morbidity, and decreased the cost of care (Jones et al., 1989; Naylor, 1990; Williams & Williams, 1986; Zimmer, Eggert, Treat, & Brodows, 1988).

The purpose of the study was to evaluate the efforts of follow-up encounters, home visit, and/or telephone contact by a GNC on the return rate of emergency department visits. Literature supported the premise that preventive home visits can be used successfully for hospital post-discharge intervention to promote health and to prevent or minimize disability in the community-based elderly.

Significance to Nursing

The findings of this research indicate the exigency for a GNC focus on the needs of the elder who utilized emergency department services. The older the client the more specialized the attention must be to compensate for the elder's unique physiology and mode of presentation. Proper evaluation, treatment, and follow-up are essential to prevent readmissions and reduce adverse patient outcomes.

The role of the GNC has been to act as an advocator for the elder and to intervene as helper in order to improve quality of health care. GNCs are in a unique position to assist the elder in obtaining alternative health care services after initial visit to the emergency department. GNCs also are provided the opportunity to promote a collaborative practice with physicians in the emergency department, focusing on triage, assessment, and management of care for the elderly client. The GNC can conduct nursing research on the effectiveness of nurses in alternative health care situations.

The Health Care Financing Agency (HCFA) has begun to monitor patient outcome measures in addition to expenditures in an effort to improve the quality of patient care of patients discharged from the emergency department (Maddens, 1989). The GNC can be instrumental in the development of patient evaluative measures for the elderly patient who has received care in the emergency department. Designing and implementing programs to monitor outcomes of the elder who is discharged from the emergency department should be a primary role of the GNC.

Theoretical Framework: Wiedenbach

The theoretical framework for this study is Wiedenbach's (1964) Theory of the Helping Art of Nursing. Wiedenbach's theory has been classified as situation producing, which promotes nursing as a professional practice

(George, 1985). Three factors are involved in achieving this status: (a) the central purpose--identifying the nurse's and client's philosophy, which includes reverence for life, respect for individuals, knowledge of inner self, and the ability to act independently by utilizing strengths within himself/herself to overcome difficulties; (b) prescriptive--the nurse takes action by developing a plan of care based on the client's needs, and (c) realities--the setting in which action occurs. According to Wiedenbach, the setting where needs are expressed and action is taken can be anywhere. This research study focuses on the emergency department environment and the community. All three characteristics must be present to sustain Wiedenbach's prescriptive theory (George, 1985). However, in order to apply the theory to practice, Wiedenbach (1964) believed that three components must be recognized: identification of the client's needs for help, administration of the help needed, and validation that the help provided was beneficial to the client. This research study was designed to meet requirements necessary to validate this helping theory. The elderly client expressed a need by utilizing the emergency department for health care. The GNC recognized the elder in need. The independent variable, follow-up encounter, was the plan of action taken by the GNC to help the client in need. During the visit the GNC administered and helped to promote the

autonomy of the elder. The dependent variable, return to the emergency department, was the validation of action taken.

The helping theory is the framework for the GNC to develop a holistic approach for addressing needs expressed by the elderly client. The ultimate goal of this research was to provide an alternative intervention to assist the elder to attain the highest possible level of adaptation for enhanced quality of life. This action should decrease emergency department abuse, improve medical outcome of elders discharged from the emergency department, and establish a unique role for the GNC within the emergency department setting.

Statement of the Problem

The problem of this study focused on the elder's health care needs which were not being met. The lack of current research on outcome for elders discharged from the emergency department mandated the need for exploration of this area. The problem to be investigated was would return visits to emergency departments be decreased if a GNC did follow-up encounters after the initial visit?

Hypothesis

The hypothesis for this study was that the rate of return visits to emergency department by elderly clients is positively correlated to follow-up encounters by a GNC.

Assumptions

The assumptions of this study were as follows:

1. An individual has needs, some are perceived, some are not perceived (Wiedenbach, 1964).
2. An individual is able to utilize strengths within himself/herself to overcome obstacles that threaten his/her existence (Wiedenbach, 1964).
3. An individual acts in his/her best interest at the moment of implementation (Wiedenbach, 1964).
4. Elders use emergency departments for primary care purposes.

Definition of Terms

For the purpose of this study, the terms were defined as follows:

Return visits. Theoretical: To go and come back to a place, to reside temporarily. To go and see someone in a professional manner (Guralnik, 1974). Operational: Elders who returned to the emergency department within 7 days or less of the initial visit to the emergency department as determined by monitoring of hospital and emergency admission logs.

Elderly clients. Theoretical: Men and women 65 years and older (Ebersole & Hess, 1990). Operational: Men and women 65 years and older who utilized the emergency department of a 474-bed urban hospital with a diagnosis of chronic disorders, such as congestive heart failure,

arthritis, hypertension, chronic obstructive pulmonary disease, and diabetes.

Follow-up encounter. Theoretical: That which follows something else, such as a review, and includes a personal contact with another person (Guralnik, 1989). Operational: A telephone contact or home visit implemented by the GNC for all clients in the experimental group. The contact may include providing information that will help the client with a need: (a) transportation options, (b) follow-up appointment with primary health care provider, (c) obtaining ordered medication, (d) financial options, and (e) clarify discharge instructions.

Geriatric Nurse Clinician. Theoretical: A master's prepared registered nurse who has successfully passed the American Nurses' Association (ANA) certification examination for a nurse practitioner (Ebersole & Hess, 1990). Operational: A registered nurse enrolled in a Master of Nursing program studying to be a gerontological nurse practitioner.

Chapter II

Review of the Literature

Numerous studies have been conducted relating to hospitalization and health care problems of the elder. A review of literature by the researcher revealed utilization patterns of emergency departments by elders. However, no research was found that specifically addressed interaction by a Geriatric Nurse Clinician (GNC) to improve utilization of and reduce return visits to the emergency departments. Therefore, this review of literature focused on studies about utilization of emergency services and preventive home care in the elderly population.

Utilization of Emergency Services

Baum and Rubenstein (1987) conducted a study to compare the emergency department care of elderly clients age 65 years and older to the emergency department care of younger clients 64 years and under. This descriptive design included sampling of all patients who utilized the emergency department over a 22-day period. The emergency department was located in a 498-bed community hospital, which received approximately 80 emergency department visits per day. Data from 1,620 clients were collected 24 hours prospectively

from medical record reviews. The statistical method used to evaluate the results was the chi-square test for comparing categorical means and standard error of the mean. Also utilized was the two-tailed confidence intervals.

Baum and Rubenstein (1987) found that elders were more likely to be hospitalized than the younger client (46% versus 10%), to arrive by ambulance (35% versus 10%), and to have an identified source of primary care (95% versus 64%). In conclusion, the researchers found that elders' illnesses tended to be more severe, and elders were more often admitted to the hospital. The researchers also concluded that even though more diagnostic tests were performed on elders, diagnosis was less accurate than on the younger client. The current researcher desired to improve elder care; thus a quasi-experimental study was implemented to evaluate the impact of follow-up intervention by a GNC on return rates by elders to the emergency department.

Gerson and Skvarch (1982) compared the use of the emergency medical services by the elderly client 65 years and older versus the younger client 64 years and less. This descriptive study included all clients who utilized emergency medical services in a city with a population of 237,177. Fifteen thousand calls were answered, and data were collected from each client by a paramedic. A report form was utilized which contained pertinent information about the patient, history of complaint, and treatment rendered. A computer-based management system correlated all

data. The Statistical Package for Social Services (SPSS) was used for data analysis.

Results of the study provided information on utilization of service for both age groups. The user rate for the elderly client was 99.5/1,000, which was significantly higher than that of the younger client with a user rate of 54.7/1,000. The transportation rate pattern demonstrated a statistically significant higher ($X^2 = 589.11$, $p < .001$) rate of transfers by ambulance in the elderly compared to the younger age group. The researchers concluded that the utilization of emergency department services is steadily increasing with more than 22% of service being provided to the elderly population. Recommendations from this study support the need to provide special services to the rapidly growing population of elders.

To evaluate the patterns of use, appropriateness of use, and treatment and disposition of elderly patients as compared to those of nonelderly patients in an emergency department, a study by Ettinger, Casani, Coon, Muller, and Piazza-Appel (1987) was designed. This retrospective descriptive study was conducted in a 399-bed community teaching hospital in Baltimore, Maryland. The hospital serves as a regional trauma facility and provides a full range of emergency medical services. Data were collected using a chart review documenting all visits made every other

day to the emergency department over a 4-month period. During the time studied, 540 elderly patients were seen, which accounted for 13% of all admissions to the emergency department. An equal number of nonelderly patients were compared to the elderly patients.

Ettinger et al. (1987) found that elderly patients were more likely than nonelderly patients to have a classification of an emergent diagnosis (34.4% versus 8.3%), to arrive by ambulance (54.6% versus 23.5%), to be admitted to the hospital (51.4% versus 14.4%), and to have a medical as opposed to surgical illness (75.0% versus 53.2%). Further, elderly patients had a higher proportion of cardiac (28.4% versus 7.2%) and pulmonary disease (5.3% versus 2.8%); nonelderly patients had more injuries (30.5% versus 10.7%) and self-limited infectious diseases (11.5% versus 5.0%) The proportion of psychiatric disease and social problems was low in both groups (about 5%). Elderly patients had a significantly lower portion of nonurgent diagnoses (19.4% versus 32%). Eighty percent of the elder sample identified a primary health care provider, but elders were more likely to use the emergency department during daylight hours (55% versus 41%) than the nonelderly. Nearly half of the elderly sample received a new medication, and most were given some form of instructions for post-emergency department care. In conclusion, the researchers recommended that better education by primary health care providers could

be implemented to reduce the number of more expensive and potentially less satisfactory forms of health care. Also the researchers recommended that the outcome of elderly patients treated in the emergency department needs to be studied. Unlike the study by Ettinger et al. (1989), which focused on treatment of elders in the emergency department as compared to that of a younger group, this present research demonstrated the impact of follow-up interventions by a GNC on return rates to the emergency department 7 days post-discharge.

A descriptive study which focused on use by elder and nonelder patients in an emergency department of an urban teaching hospital was conducted by Lowenstein, Crescenzi, Kern, and Steel (1986). The purpose of the study was to explore and compare (a) demographics, (b) reasons and urgency of visits, (c) cost of care, and (d) results of care (including rates of hospital admissions, symptoms resolution, compliance with therapeutic plan, and recidivism).

During a 6-week period all emergency department patients age 65 years and over were identified and selected for the study. An equal number of patients under the age of 65 years were selected as a comparison group, matched by date and time of arrival in the emergency department. A total of 234 subjects for each group were included. Data were obtained from three sources. The emergency department

records of all subjects were reviewed for demographic, social, diagnostic, and treatment data, including the use of a hospital-based computer billing system. A telephone follow-up contact was made to all elderly and nonelderly patients who were not admitted to the hospital 14 to 21 days after discharge from the emergency department. Information was obtained about resolution of symptoms, satisfaction with care, and compliance with emergency physician's recommendations. Findings were evaluated using the Statistical Analysis System (SAS), chi-square, student's t test (two-tailed), and analysis of variance.

The elderly comprised 19% of the emergency department population and nonwhite (31% versus 15%), Medicaid recipients (39% versus 18%), living alone (14% versus 33%). Among the emergency department elderly sample the reported levels of chronic conditions were as follows: arthritis 52%, hypertension 52%, lung disease 32%, heart disease 29%, ongoing problems with vision 43%, and poor hearing 29%. Ninety-four percent reported that they had a primary physician, and 72% had made at least one office visit in the month preceding the emergency department visit. To clarify why elders used the emergency department, more than half the subjects felt that their illness or injury was urgent. An additional 8.6% felt they would need to be hospitalized. Fifteen percent of elderly patients visited the emergency department after direction by telephone contact with primary

physician, while 2% of the elderly patients reported the emergency department as their primary health source. Compared to the nonelderly, the elderly were admitted (47% versus 18%), stayed a longer time in the emergency department (3 hours versus 1.9 hours), and incurred a patient charge (\$324 versus \$208). Twenty-nine percent of the elderly patients who were not initially admitted to the hospital returned to the emergency department within 14 days (recidivism). The recidivism rate for nonelderly patients was only half as much.

Sixty-nine percent of elderly and 58% of nonelderly patients received an appointment or name of physician for follow-up care. All of the elderly and 79% of the nonelderly patients kept the follow-up appointment. Forty-three percent of elderly patients received prescription drug instructions, and 48% received other discharge self-care instructions. Eighty-two percent of elderly patients had medications filled and were compliant with other self-care instructions (70%).

Lowenstein et al. (1986) concluded that the elderly clients had higher recidivism (return visits) rates and higher cost of emergency care than the younger clients. Recommendations made by the researchers included the need for a solution to improve care delivered to the elderly in the emergency department through deliberate, organizational staffing and training efforts. For example, social workers,

geriatric nurse practitioners, and other health care professionals might staff large emergency departments to assist in the triage, care, and follow-up of high-risk elderly patients. The current study focused on intervention by a GNC either through telephone contacts or home visits for the elder who is discharged from the emergency department to prevent or reduce return visits.

Another study was conducted by Denman, Ettinger, Zarkin, Coon, and Casani (1989) to determine the short-term functional and medical outcome of elders 65 years and above and nonelders 64 years and below, following discharge from an acute hospital emergency department during a 45-day period. The hospital's emergency department catchment area includes an urban and suburban population in which 15.1% of the adult population is above 65 years of age. The sample size for the study consisted of 100 elders and 100 nonelders who utilized the 390-bed community teaching hospital emergency department which was part of the Johns Hopkins Medical Institution.

Data were obtained from four sources: (a) an initial telephone interview 3 days following the emergency department visit, (b) a follow-up telephone interview 3 weeks following the emergency department visit, (c) a questionnaire completed by the attending physician, and (d) the emergency department medical record.

Chi-square statistics for categorical variables were utilized to analyze correlations between the elder and nonelder group. Logistic regression was used to derive an equation predicting poor medical outcome.

Elders were more likely to have a usual source of identified primary health care than nonelders (93% versus 74%). However, of these patients with primary health care providers only 25 of 90 (28%) of the elders and 24 of 72 (33%) of the nonelders contacted their primary health care provider before going to the emergency department. Ambulance use was more common in the elders with 67% use compared to 48% of the nonelderly. Elderly patients were more likely to be treated for cardiopulmonary disorders (18% versus 7%), and a significant number of the elderly visits were precipitated by falls (14% versus 2%). Patient understanding of the diagnosis on discharge from the emergency department was correct in 72% of both elder and nonelder groups. At least one new prescription medication was given just as often to each group (elder 41% versus nonelder 31%). The elders were as likely as the nonelders to know the correct name (88% versus 87%), dosage schedule (90% versus 90%), and purpose (85% versus 94%) of medication. Elderly patients were more likely to keep scheduled follow-up appointment (87% versus 65%). Despite these similarities, elders had worse medical outcomes at 3 weeks, including 7 patients who required interim

hospitalization, 4 of whom died. However, 82% of the nonelderly were better, only 4% were worse, and none of the nonelderly required hospitalization or died.

Functional impairments were more common in the elderly both at baseline (elderly 26% versus nonelderly 6%) and at 3 weeks (elderly 27% versus nonelderly 5%). Independent predictors of poor medical outcome included age above 65 years and functional impairment at baseline.

Denman et al. (1989) recommended that based on the information obtained in this study the elderly patient who is discharged from the emergency department should be targeted for close medical surveillance with ready access to ancillary health service. This current study was conducted to assess the impact of interventions by a GNC on the rate of return visit to the emergency department by elderly clients. This study focused on return visits to the emergency department rather than on the appropriateness of the visit.

To compare utilization of psychiatric emergency service by elderly and nonelderly patients, a retrospective descriptive study was conducted by Thienhaus, Rowe, Woellert, and Hillard (1988). Of the 8,561 visits in one year to the psychiatric emergency room at University Hospital in Cincinnati, 254 were made by patients 65 years and older. Fifty percent of the charts on these visits by the elderly were randomly selected for analysis. A matching

number of charts on visits by young patients, ages 14 through 64 years, were analyzed for comparison purpose. The 254 patients aged 65 and older constituted 2.9% of the patients seen in the psychiatric emergency service.

Statistical data for all comparative evaluation were analyzed using the chi-square test. Stepwise regression analysis served to assess the associative relationship between predictor variable and outcome.

Disorientation was the most prevalent psychiatric symptom recorded for the elderly patient, representing one third of all elderly patients but only 3% in the younger group. Medical comorbidity was identified in almost 69% of the visits by the elderly compared to 13% of the younger group. In almost half of the emergency department visits by elderly patients, the primary outcome was admission to a psychiatric hospital unit; in contrast, one third of the visits by the younger control group resulted in admission ($X^2 = 5.68$, $df = 1$, $p < .05$). Dementia was the most frequent diagnosis in the geriatric sample; 51% were admitted to a psychiatric unit. However, when additional mental diagnosis was added to dementia diagnosis, 74% of the elderly patients were hospitalized ($X^2 = 5.26$, $df = 1$, $p < .02$).

Thienhaus et al. (1988) concluded the higher admission rate of elders may reflect the fact that only 13% of the patients were evaluated by a professional trained in

geriatric care. The researchers recommended that more professionals with expertise in geriatric care utilized in the psychiatric emergency department could contribute to a positive outcome for elderly patients.

Based on the findings from the research conducted by Thienhaus et al. (1988), the current research sought to examine the effects of interventions by a GNC on elders who are discharged from the emergency department. The study focused on improving outcome of elderly patients through the service of a Geriatric Nurse Clinician.

Appropriateness of emergency department visits was the focus of a study in 1985 by Buesching et al. The research was conducted to determine appropriate and inappropriate emergency department visits. Visits to the emergency department of three community hospitals in Illinois during a 2-week period were analyzed. The records of 3,130 visits were examined. Inappropriate visits were those for which patients presented with symptoms that had been present for more than 72 hours without change and for which the patient did not attempt to contact a personal physician.

The chi-square distribution was calculated. There was an overall inappropriate visit rate of 10.8, although considerable variations were observed among the three hospitals. Inappropriate visit rates included the following: (a) persons with Medicaid as the primary payment source (17.3%), (b) children aged 5 years or younger

(15.2%), (c) those unable to identify a personal physician (14.1%), (d) unemployment persons (13.1%), (e) patients making visits during regular office hours (12.6%), and (f) those failing to attempt to contact a personal physician before the visit (12.4%). These variations in the rate of inappropriate visits were statistically significant at the $p < .05$ level or better. The overall relationship between appropriateness of visit and ability to identify a personal physician was significant at the $p < .001$ level. Buesching et al. (1985) recommended that further studies be implemented to investigate the return rate of individuals who use the emergency department.

The current research was conducted to assess the impact of interventions by a GNC on the rate of return visits to the emergency department by elderly clients. This study focused on return visits rather than appropriateness of the visit.

A study to determine if monitoring 48-hour revisits to the emergency department was a useful indicator for quality of care in the emergency department was conducted by Keith, Bocka, Kobernick, Krome, and Ross (1989). The setting for this descriptive study was a 929-bed teaching institution in Detroit, Michigan.

Data were obtained from daily review of charts on patients returning within 72 hours of discharge from the emergency department for 2 months. There were 13,261

patient visits during the 2 months, with 455 (3.4%) representing return visits to the emergency department within 72 hours. Statistical data were analyzed by using the Fisher's exact test. Unscheduled return visits totaled 297; 96 of these were unavoidable. Of these avoidable visits, 38 (39.6%) had medical management deficiencies, 14 (14.6%) had inappropriate prescribed follow-up, 20 (20%) had not been given proper education, and 35 (36.5%) were due to patient noncompliance. Timing of the unscheduled return visits included 146 (49.2%) returned within 24 hours, 89 (30.0%) between 24 and 48 hours, and 62 (20.8%) between 48 and 72 hours.

The toxicologic and cardiovascular classification had the highest percentage of avoidable return visits, 90% and 73%, respectively. Seven of the eight cardiovascular avoidable return visits had medical management deficiencies. Keith et al. (1989) recommended the use of a computer to monitor 48-hour unscheduled revisits, rather than 72 hours, as a useful and efficient tool for detecting quality assurance problems, including proper patient education and appropriateness of follow-up. Based on the findings for return visits within 48 hours in the study by Keith et al. (1989), this current research was conducted to assess the impact of interventions of a GNC on the rate of returns within 7 days to the emergency department by elderly clients.

In 1989, a descriptive study by Bone et al. was conducted to evaluate the effectiveness of trained paraprofessionals, community health workers in the emergency department, to supplement physicians' routine effort in chronic conditions in urban high-risk communities. The study was conducted in the adult emergency department of the Johns Hopkins Hospital over a 2-year period. The hospital is located in a predominantly black low-income area of Baltimore. During the study period the number of patient visits averaged 150 to 200 patients per day. Overall 85% of patients were black, 47% men, with the median age being 34 years. The medical problem of chronic high blood pressure was selected to examine the expanded role of the emergency department because it is both prevalent and costly for poor urban communities.

The purpose of the study was to determine the feasibility and impact of alternative health source in the emergency department to supplement detection, referral, and follow-up efforts performed by emergency department clinical staff. Also, the researcher assessed the degree in which alternative health source or community health workers' efforts improve high blood pressure follow-up in high-risk groups.

During the study period community health workers provided blood pressure measurement and educational counseling regarding high blood pressure and cardiovascular

risk factors, telephone reappointment reminders to improve emergency department follow-up visits, and recontact of patients failing to show for emergency department appointment. Statistical data were analyzed using the chi-square. Results of reappointment reminders by community health workers showed a 19% improvement in appointment keeping. Also, an overall improvement rate of 7% failed to return for follow-up. The results support the idea that individuals from the community trained as paraprofessionals can improve compliance for treatment by follow-up of patients with chronic conditions who are treated in the emergency department. Recommendations were made by Bone et al. (1989) to use the study as a model for the approach to other chronic conditions experienced in urban high-risk communities.

This current study evaluated alternative health care measures. However, the focus was on professionals with expertise in gerontology nursing instead of paraprofessionals.

Preventive Home Visits

Hendriksen, Lund, and Stromgard (1989) conducted a study to compare the effects of preventive home visits on the rate of hospitalization of people aged 75 years or older. This longitudinal epidemiologic study was implemented in a suburb of Copenhagen, Denmark. A control group and an intervention group were randomly selected. The

control group was not contacted until the last 3 months of the study. This group received only the usual social and medical support from the community during the 3 years. The experimental group received preventive home visits made every 3 months over a 3-year period by the researcher. Data were collected from 300 elders in the intervention group and 300 elders in the control group. Hospital records were reviewed each month to record activities of both groups in regard to hospitalization and medical services utilized.

The data were analyzed using the chi-square test and log linear Markov Chain Model to demonstrate relationships between the control group and the intervention group. The results of this study showed a significant risk increase for hospitalization of elders in the control group ($p < .01$). From the statistical data, the researchers concluded that a significant reduction in the number of admissions (especially readmissions) to hospital was seen in the intervention group. Recommendations were made by the researchers to improve social network of human contact and support the elder in a home environment.

The current study evaluated the impact of interventions by a GNC on the return rate to the emergency department by elderly clients. The polestar of this study was on follow-up care post-discharge from the emergency department. Interventions were planned to promote autonomy for the elder

and prevent or reduce return visits to the emergency department.

In another study, Ramsdell, Swart, Jackson, and Renvall (1989) evaluated the effects of home visits by a geriatric nurse specialist on the overall interdisciplinary assessment and care of the elderly patient. The hypothesis stated that a home visit would detect a greater number of problems of the frail elderly patient and result in more specific recommendations than an office assessment by a general internist/geriatrician.

The sample size was 154 elderly patients who were enrolled in the Seniors Only Care (SOCARE) assessment program at the University of California, San Diego. Data for the study were collected based on empirical observations over 2-5 years of home visits. The data were subjected to Pearson r analysis, comparing the number of problems identified. A logistic regression analysis was used to identify patient factors that predict patients' problems. The hypothesis of the study was supported in that the GNC identified at least one additional problem during home visits that was not identified during the office visit. The identification of problems resulted in more specific recommendations for treatment. Statistically, significance was noted by a mean of 2.7 problems with a 95% CI of 2.4 - 3.1 for the home visit assessment. The logistic regression analysis indicated that none of the variables

explained the reasons for problems identified on the home visit. Ramsdell et al. (1989) suggested that the setting and the sample used prevented generalization of the results of the study to other populations of elders.

The current study sought to examine the impact of intervention by a GNC on the outcome of elderly patients who are discharged from the emergency department. The interventions by a GNC included home visit and telephone contact to identify areas in which the elder would need help.

In 1990, Naylor conducted a pilot study to compare the effects of general discharge planning to comprehensive discharge planning implemented by a gerontological nurse specialist on the rate of hospitalization in the elderly. Random sampling of 40 hospitalized elderly clients was divided evenly into a control and an experimental group. The Fisher's Exact Test was utilized to test statistical significance.

Major findings of this study showed a significant difference between experimental and control groups in hospitalization rates. Naylor (1990) found the hypothesis was supported in that the elderly patient has serious illnesses and needs special interventions at discharge to reduce or prevent readmissions. Findings of this pilot study were limited because of the small sample size. The researcher suggested a larger sample size of elderly

patients be used to investigate the effects of the GNC's intervention.

This current study was developed to assess the impact of follow-up encounters by a GNC on the return rate of elderly clients to the emergency department. Interventions, telephone contact, or home visits were provided by a GNC 24 to 48 hours to elders in the experimental groups post-discharge from the emergency department.

A randomized controlled study was performed by Infante-Rivard, Krieger, Petitclerc, and Baumgarten (1988) to determine whether a telephone support system could reduce the frequency of physician encounters. Subjects age 65 years and older who were hospitalized at a major teaching hospital in Montreal over the past year were chosen. The 182 subjects were assigned by simple randomization to a telephone support group or to a control group using a random number table.

The experimental intervention consisted of telephone calls by a public health nurse to participants every 8 weeks for 48 weeks. The focus of the communication was to meet the following objectives:

1. Elderly persons were encouraged to talk about his or her health and answer questions related to it.
2. Promote a healthier lifestyle.
3. Encourage self-care for minor problems.
4. Offer emotional support.

The control group was contacted at baseline and one year later and received no intervention.

Multiple linear regression was performed in order to determine the effect of telephone support intervention on the number of physician encounters on the experimental group. The experimental group reported 7.40 encounters with a physician, and the control group reported 8.61 encounters. The difference between the groups, after adjusting for various prognostic factors, was 1.20 (95% CI, -0.84 to 3.24). Although the difference did not achieve statistical significance, the result suggests that the telephone support may bring about a decrease in medical care utilization. Infante-Rivard et al. (1988) recommended that a larger sample size be used and to incorporate a personal contact into the intervention. Also, future studies were recommended to assess the effects of interventions on other outcome, such as client satisfaction.

In this current study interventions were by telephone contact and home visits. The focus of the study was to determine effects of encounters on the return rate of elders following discharge from an emergency department.

Summary

In summary, a review of literature supported the premise that increasing emergency department visits by the elder is adversely impacting efficient utilization of emergency service. Also, current literature revealed a need

for additional monitoring of care and follow-up after discharge of elders who utilize the emergency department for health care. The review of the literature further provided positive correlation between preventive home visits and outcome for the elder.

Several studies demonstrated that elders are using the emergency department at an increased rate, have a greater frequency of hospitalization, receive more tests with less accurate diagnoses, and incur a higher charge for care as compared to the younger population (Baum & Rubenstein, 1987; Ettinger et al., 1987; Gerson & Skvarch, 1989; Lowenstein et al., 1986). Also, Denman et al. (1989) concluded that the elderly patient had worse medical outcome than younger patients following discharge from an emergency department. According to a study by Thienhaus et al. (1988), the elderly patient is evaluated by a professional trained in geriatric care only 13% of the time and has a significantly higher chance to be admitted than the younger patient. Significant findings were cited in a study by Bone et al. (1989) that demonstrated persons trained as paraprofessionals could decrease the return rate to the emergency department of individuals who had chronic illness.

In 1985, a study was conducted by Buesching et al. and concluded that inappropriate visits to the emergency department were statistically high. Recommendations were made to investigate return visits of individuals who use the

emergency department. Keith et al. (1989) conducted a study and concluded that monitoring 48-hour return visits to the emergency department was an important indicator for quality of care.

Hendriksen et al. (1989) found that there was a significant reduction in the number of admissions to hospital in elders who received preventive home visits. The research conducted by Ramsdell et al. (1989) supported the assumption that home visits by a GNC would increase the quality of care the elder received. A research study by Naylor (1990) found that comprehensive hospital discharge planning implemented by a GNC reduced or prevented readmissions. Infante-Rivard et al. (1988) found no significant difference in a telephone support system to reduce the frequency of physician encounters. However, the study did indicate that the telephone contact by a public health nurse may bring about a decrease in medical care utilization. The conclusion reached by the researcher from the studies reviewed was that follow-up care by a GNC can affect outcome for the elderly patient who uses emergency services.

Chapter III

The Method

The purpose of this research study was to explore the effects of follow-up encounters by a Geriatric Nurse Clinician (GNC) on the return rate of emergency department visits of the elder. The review of current literature supported the need for intervention by a professional with expertise in gerontology to focus attention on the elder who utilizes the emergency department for health care. Using the concept of helper, the GNC focused on interventions that would decrease return visits to the emergency department of the elderly client.

Design of the Study

A quasi-experimental design was used in this study. According to Polit and Hungler (1987), in quasi-experimental designs the independent variable is manipulated by the use of an experimental treatment, and the researcher observes the consequence. This type of design allows causal inference; however, its results have been valuable for practicality and generalization.

The design was also important to this research because the researcher analyzed the results of intervention on the

independent variable rather than simply comparing the groups. Introduction of control into the design by the randomly assigned control group increased the strength of this study and increased the possibility that the experimental intervention was successful.

Variables. The independent variable in this study was the follow-up encounter including a telephone contact or home visit to randomly selected clients within 24 to 48 hours of initial visit to the emergency department by a GNC.

The dependent variable was the rate of return visits to the emergency department of the elderly client. An attempt was made to support the assumption that return visits would be positively correlated with follow-up encounters by a GNC after initial visit to the emergency department.

Controlled variables were age and type of medical diagnosis. Intervening variable may have been previous visits to the emergency department before selection of sample.

Null hypothesis. The null hypothesis for this study was there will be no correlation between readmission rate to the emergency department and follow-up encounter by a GNC for elderly clients.

Limitations and weakness of the study. The researcher identified areas of limitations including sample and data collection procedure. The small sample selected in this study may not have been representative of the general

population (Polit & Hungler, 1987). Sample of convenience may also have limited the possibility of equalization or matching of the subjects. Ideally, selection of random samples in larger numbers from different geographical locations would be used. Therefore, the results may not be applicable to the elderly population using emergency departments. Ideally, selection of random samples in larger numbers from different geographical locations would be used.

The last limitation concerned problems with data collection. The researcher encountered difficulty with obtaining permission to make home visits due to the fears of the elders who live in high crime inner city areas. Reported crimes of violence have increased over the past year in this urban area of West Tennessee (Aitchison, 1991). Subjects' fear for the safety of the researcher further limited the randomization of the sample.

Setting, Population, and Sample

The setting for this study was the emergency department of a 474-bed urban hospital in West Tennessee. Approximately 21,000 patients are seen per year in this emergency department, with an average of 75 visits per day. From March 1989 to March 1990 there were 1,600 return visits within 30 days of discharge from the emergency department.

Medical care is provided to patients of all ages, including elders who make up 27% of all patients receiving care. From these elders, quota sampling was drawn from

clients 65 years and older who were treated for a chronic illness. Quota sampling is a form of nonprobability sampling which utilizes the available population but goes one step further and uses knowledge about the population to have a representative sample (Polit & Hungler, 1987). The selection of prospective subjects was conducted over a period of 90 days. Subjects, after presenting to the emergency department for treatment of chronic illnesses, were assigned to three groups (A, B, and C) until each group had 10 subjects, for a total sample of 30. In order of presentation to the emergency department the first subject was placed in Group A, second subject placed in Group B, and third subject in Group C. This sequence was repeated until sample size was complete.

Subjects in Group A provided the GNC permission to ask questions regarding care received in the emergency department and to record their comments during a telephone call made within 24 hours after discharge from the emergency department. Also, the GNC obtained permission by telephone from subjects in Group B to make a home visit within 48 hours after discharge from the emergency department. Subjects in the home visit group gave additional permission for the GNC to ask questions regarding care received in the emergency department and to record their comments at the time of the visit. Group C subjects were not contacted.

Methods of Data Collection

Instrumentation. A structured self-report questionnaire developed by the researcher was administered using the interview approach. The script was utilized and closely adhered to for each contact by the researcher. The questionnaire contained two parts. Part A contained demographic data and the client's medical history, while Part B utilized a combination of six closed-ended questions and two open-ended questions (see Appendix A). In order to ensure face validity, this questionnaire was developed after a review of literature and after a committee review by the researcher. The questionnaire has no established validity or reliability.

Procedures. The researcher obtained permission for conducting this research study from Mississippi University for Women Committee on Use of Human Subjects in Experimentation (see Appendix B). After obtaining permission, the researcher requested permission for conducting this research from the hospital administrator and medical director of the emergency department (see Appendix C). After approval, the researcher monitored all emergency department admissions and randomly assigned prospective subjects to three groups (A, B, and C). Group A received a follow-up encounter by telephone contact from the GNC 24 hours after the initial visit to emergency department (see Appendix D). Group B received a follow-up encounter by home

visit from the GNC 48 hours after the initial visit to emergency department (see Appendices E and F). Group C was the control group; this group received no intervention from the GNC. Observation of hospital and emergency admission logs were monitored for 7 days after each initial visit to the emergency department for readmissions by subjects in all groups.

Pilot study. A pilot study was conducted using three elders prior to implementation of the procedure. The elder assigned to Group A received a phone call from the GNC within 24 hours of discharge from the emergency department. The subject agreed to participate in the study and answered all questions on Part B of the questionnaire. The second subject was assigned to Group B and received a phone call from the GNC requesting permission to visit the home. The home visit was made 48 hours following discharge from the emergency department. The third subject was assigned to Group C; there was no encounter by the GNC. The questionnaire and script were easy to use, and the subjects expressed no problem with understanding. The two subjects did not understand discharge instructions and stated, "They were too busy to talk to us." New medication was given to the subjects in Groups A and B; one subject could not have the medication filled. She needed financial options and transportation resource. One subject had the new prescription filled only to find it was the same medication

he was already taking. Both of the subjects were seen in the emergency department during daylight hours and had attempted to request services from a primary physician prior to admission to the emergency department. The subject in the controlled Group C did return to the emergency department and was admitted to the hospital 10 days after discharge from the emergency department, remaining at home 3 days longer than the proposed 7 days. The subjects in Groups A and B did not return to the emergency department within 7 days. Based on the results of the pilot study, the methods used were carried forward in the major study and these subjects were included.

Methods of Statistical Analysis

The chi-square statistic was used to test the hypothesis that a higher proportion of subjects in the experimental group would be positively correlated with rate of return visits to the emergency department than subjects in the control group. This procedure is commonly used to determine the strength of significance relationship between means. Chi-square is computed by comparing two sets of frequencies, those observed in the collected data and those that would be expected if there were no relationship between variables (Polit & Hungler, 1987).

Chapter IV

The Findings

The purpose of this quasi-experimental study was to determine the effect of a Geriatric Nurse Clinician's follow-up encounter on the return rate of elders to the emergency department for chronic health problems. A description of the sample including an overview of the demographic variables and results of the data analysis are presented in this chapter.

Description of Sample

Subjects were selected from the emergency department of a hospital in an urban area of West Tennessee. The subjects were elders who were 65 years and older with a chronic health problem. A total of 30 subjects were included in the study. Subjects were equally assigned to three groups: A and B were treatment groups, while Group C was the control group.

Demographic data were obtained from the emergency department medical records. Fifteen subjects (50%) of the sample ranged in ages from 71 to 80 years, while 6 (20%) were aged 65 to 70 years, 8 (27%) were 81 to 90 years, and one was 92 years old. There were 10 males and 20 females.

Six (20%) were Caucasian while 24 (80%) were of the Black race. The diagnosis of chronic illness included congestive heart failure (30%), hypertension (20%), arthritis (20%), chronic obstructive pulmonary disease (17%), and diabetes (13%) with equal representation in all three groups.

Group A ($\underline{n} = 10$) consisted of 8 subjects ranging in ages from 71 to 80 years; one was 65 years, and one was aged 88 years. There were 3 males and 7 females. Three were Caucasian and 7 were of the Black race.

Three of the subjects in Group B ($\underline{n} = 10$) ranged in ages from 71 to 80 years, while 3 were in the age group of 65 to 70 years, and 4 placed in the 81 to 90 years of age. Four males and 6 females were in this group, and there were one Caucasian and 9 Blacks.

The subjects assigned to Group C ($\underline{n} = 10$) consisted of 4 ranging in ages from 71 to 80 years, while 2 were between 65 and 70 years. Three were in the 81 to 90 years of age range, with one subject being 92 years of age. There were 3 males and 7 females, with 2 reported as Caucasian and 8 reported as Black.

The participants in Group A ($\underline{n} = 10$) and Group B ($\underline{n} = 10$) answered an 8-item researcher-developed questionnaire. Six questions were developed to assess needs of the elder and 2 questions were used to obtain opinions. The responses of the two treatment groups were compared. Group A reported that 8 (80%) had regular physicians as compared to subjects

in Group B with only 5 (50%). Group A also reported that they followed the emergency department discharge plan (70%) while Group B followed the plan (50%). Group A reported 70% compliance with medication regime versus 50% in Group B. Both groups reported follow-up visits with health care providers, Group A (90%) versus Group B (80%). Home health services were reported lower in Group A (10%) versus Group B (30%). The responses to the two opinion questions were as follows: 70% of Group A reported improvement in personal health status after the emergency department visit which they believe provided good services. Sixty percent of the subjects in Group B reported improvement in health status, and 80% reported services in the emergency department were good.

In describing the financial health plan for participants in each group, data revealed that participants in all three groups were covered by Medicare insurance. However, no subjects in Group A were covered by Medicaid insurance. Two subjects in Group B were covered, and 4 subjects in Group C were covered by Medicaid benefits.

Another variable examined was the category of significant others of the sample. Eight subjects in Group A and 6 in Group B lived with a significant other. However, all 10 participants in the control group lived with a significant other.

When investigating the participants' home health status, it was found that only 4 were enrolled in this type of program. One subject in Group A and 3 subjects in Group B were receiving home visits from a nurse.

Results of Data Analysis

The research hypothesis for this study was as follows: The rate of return visits to the emergency department by elderly clients is positively correlated to a follow-up encounter by a Geriatric Nurse Clinician. To test this hypothesis, data were first collected from 20 subjects using an 8-item researcher-designed instrument to determine the needs of elders who are discharged from the emergency department. Then the Geriatric Nurse Clinician (GNC) intervened seven times to alleviate the identified problem for Group A elders by providing help over the telephone. Eight interventions were made to elders in Group B during a home visit to alleviate the identified problem. Hospital and emergency department logs were monitored for 7 days post-discharge for subject readmission in all three groups. The return rate was as follows: Group A elders = 2, Group B = 1, and Group C = 1. Data were then analyzed using the chi-square statistic to equate groups on the proportion of cases that fall into the various categories (see Table 1).

Table 1

Crosstabulation of Return Visits Within 7 Days to Emergency Department by Telephone, Home Visit, and Control Groups

	Group	Telephone 1	Home Visit 2	Control 3	Row Total
Return					
Yes	1	2 50.0	1 25.0	1 25.0	4 13.3%
		20.0	10.0	10.0	
		6.7	3.3	3.3	
No	2	8 30.8	9 34.6	9 34.6	26 86.7%
		80.0	90.0	90.0	
		26.7	30.0	30.0	
Column Total		10.0	10.0	10.0	30.0
		33.3	33.3	33.3	100.0%
<u>Chi-Square</u>	<u>df</u>	<u>Significance</u>	<u>Min E.F.</u>	<u>Cells with E.F. 5</u>	
.57692	2	.74942	1.333	< 5 - 3 of 6 (50%.0)	

Since $X^2 (3, N = 30) = .58, p < .05$, the researcher rejected the directional hypothesis. There was no significant correlation between the readmission rate to emergency department and following encounters by a GNC among three older groups.

Additional Findings

Although the impact by the GNC on subjects in both treatment groups was not statistically significant, other issues which may influence readmissions to the emergency department were identified. Examples include the preference for the emergency room physician, lack of comprehensive histories, and the lack of discharge planning.

The subjects in Group B who returned to the emergency department within 7 days post-discharge of initial visit stated, "I'm going to use the doctor in the emergency department as my family doctor because he treats me real good." Two other subjects in Group B reported that they wanted to use the emergency department as their primary source of health care: "We get better care from the emergency department doctor than we do from regular doctors."

The lack of comprehensive admission histories in the emergency department also made an impact on the care the subjects received. The emergency department medical records did not accurately reflect the status of the subject. Multiple chronic problems and needs were not addressed.

Cases of these findings include the treatment and diagnosis of one subject in Group B for congestive heart failure; no mention was made of the bilateral leg amputation, the use of a Port-a-cath, and a foley catheter that helped sustain the subject. Another case related to lack of assessment reported by a subject in Group A. This subject had problems with ambulation and used a wheelchair for transfer to different locations. This subject was discharged without adequate help since no documentation reflected her limitations. The lack of comprehensive histories on elders who utilize the emergency department also leads to inadequate discharge planning.

Subjects in Group B demonstrated the most problems in this area. One 68-year-old subject was using an electric iron wrapped in a towel for heat to relieve pain related to arthritis. A 79-year-old subject who was treated in the emergency department for a hypoglycemia reaction related to insulin dependent diabetics did not understand reasons for this condition or how to treat future problems. Another subject age 86 years in Group B was given medication (Lasix). This subject had four bottles of the same medication at home and believed they were all different.

Summary

One research hypothesis was tested in this study: The rate of return visits to emergency department by elderly clients is positively correlated to follow-up encounters by

a GNC. Data were collected from 30 subjects who were randomly assigned to three groups. The analysis of the data was completed by using the chi-square. Results of this analysis showed no statistically significance among the three groups, so the researcher rejected the hypothesis. However, additional findings were relevant to the role of the GNC.

Chapter V

The Outcomes

Wiedenbach's Theory of Nursing as the helping art was the framework for this quasi-experimental study which sought to determine the effects of a follow-up encounter by a Geriatric Nurse Clinician (GNC). A nonprobability quota sampling consisted of elders 65 years and older with a chronic health problem, who utilized the emergency department of a 474-bed urban hospital. A sample of 30 was randomly assigned to three equal groups: Groups A and B received a follow-up encounter from a GNC, while Group C received no follow-up encounter.

Summary of Findings

The sample for each group was found to be homogenous in regard to the demographic variables of age, sex, race, and Medicare insurance status. They differed significantly with regard to significant other living with participants and status of Medicaid insurance. The participants in Group A received a follow-up encounter by a GNC using telephone contact, while participants in Group B received a follow-up encounter by a GNC using a home visit. No interventions were received by the participants in Group C. The

readmission rate to the emergency department was monitored for 7 days post-discharge on all participants assigned to the three groups. Two subjects in Group A and one subject in Group B returned to the emergency department within 7 days post-discharge from the emergency department. In the control Group C, one subject returned within this time frame. The chi-square was used to analyze the data. Results indicated that there was no significant relationship between follow-up encounters by a GNC and rate of return visits among the groups. Therefore, interventions by the GNC, either by telephone call or home visit, did not significantly impact the rate of return visits to the emergency department for those groups of elders.

Discussion

The findings of this study indicated that interventions by a GNC did not show a significant correlation to the return rate of elderly clients to the emergency department. However, no research has been conducted which focuses specifically on the geriatric patient, the emergency department, and interventions by a GNC, thus the finding can neither be supported nor refuted.

In contrast to the findings of this current study, Hendriksen et al. (1989), Ramsdell et al. (1989), and Naylor (1990) conducted studies which demonstrated preventive home visits and comprehensive discharge planning decreased the elder's readmission rate to the hospital. Additionally,

Bone et al. (1989) concluded that follow-up encounters of clients with chronic illness by a paraprofessional did decrease return visits to the emergency department. Similar findings related to the intervention by telephone contact are noted in a study implemented by Infante-Rivard et al. (1988) who also found no significant difference in a telephone support system to reduce the frequency of elder returns to the physician's office.

Previous research has concentrated on the elder patient's use of the emergency department. Studies have established that this age group of clients who use the emergency department have greater needs, more chronic illnesses, and require more complex treatment than others who use the emergency department (Baum & Rubenstein, 1987; Denman et al., 1989; Ettinger et al., 1987; Gerson & Skvarch, 1982; Lowenstein et al., 1986; Thienhaus et al., 1988).

Additional findings of this study were supported by research conducted by Keith et al. (1989) who also concluded that return visits to the emergency department were based on medical management deficiencies, inappropriate prescribed follow-up, and lack of proper education. The current study further supported the premise set by Ettinger et al. (1987) and Lowenstein et al. (1986) that the emergency department is used by elders as the setting for primary health care. However, Denman et al. (1989) concluded that elders identify

a personal primary health care provider but use the emergency department for management of illness. Buesching et al. (1985) demonstrated that individuals make inappropriate visits to the emergency department without contacting personal physicians for management of care. The findings of this study revealed that elders have a preference for the physician in the emergency department and feel that they receive better care than that provided by personal primary physicians. Conversely, studies by Gerson and Skvarch (1982) and Baum and Rubenstein (1987) demonstrated that elders use the emergency department only for urgent care.

Wiedenbach's (1964) Theory of Helping is substantiated by the results of this study and studies by Bone et al. (1989), Ettinger et al. (1987), and Lowenstein et al. (1986), as elders used the emergency department based on perceived needs. Further, that interventions by a GNC or support person are necessary for the elder to attain the highest level of wellness. Also, elder needs classified in this study corroborate findings by Denman et al. (1989) and Thienhaus et al. (1988), who demonstrated the various specialized needs of elders.

Secondary findings associated with this study also validate the Theory of Helping as elders who were in need of help had significant others living with them in all three groups. This finding could have accounted for the decrease

of return visits by elders who received no follow-up encounter by the GNC. Based on the Theory of Helping (Wiedenbach, 1964), the significant other could have provided assistance as the helper for these subjects. The study by Bone et al. (1989) revealed the impact of a support person trained to assist patients who have chronic illness and supports this additional finding.

Another issue revealed in this study was the lack of Medicaid funds for health care needs in Group A and the increase of return visits to the emergency department. These results could be based on the lack of knowledge of resources and lack of funds to pay private physicians for this group, which encourages the use of the emergency department. Unlike this finding, Buesching et al. (1985) demonstrated that persons with Medicaid insurance as the primary payment source had an increase of inappropriate visits to the emergency department.

When viewing the findings of this study, caution must be used in interpreting these results, since the sample size was small, time was limited for data collection, and history was a threat to the validity of the study. Due to the nature of this quasi-experimental design, the small sample size can make conclusions fallacious and make generalization to the population difficult. Collecting an adequate sample for the study was problematic due to unsafe living environment of the inner city elders and the researcher's

inability to make home visits in high crime rate housing projects. Since the time was limited, no baseline data were collected which adds to the threat of history in this design. Events external to the treatment that take place concurrently with the treatment can affect the dependent variables (Polit & Hungler, 1987). This threat could explain the lack of impact by the GNC on the treatment groups and demonstrates the problems with this design.

According to the literature and Wiedenbach's theory, there is a need for a GNC to provide necessary intervention to reduce return visits to the emergency department. This study did not demonstrate the impact of a GNC's follow-up encounter for the elderly client on return visits to the emergency department. However, findings from this study were similar to other research studies in this area and alluded to the continued need for improvement in the care of elders in the emergency department.

Conclusions

Follow-up encounters using a telephone or home visit method by a GNC did not demonstrate a statistically significant correlation in the rate of return visits to the emergency department by elderly clients. This major finding did not support conclusions by previous researchers (Bone et al., 1989).

However, secondary findings supported previous studies by Baum and Rubenstein (1987), Ettinger et al. (1987), and

Lowenstein et al. (1986), who recommended that interventions are needed within the emergency department setting to improve the quality of health care for the elder. Follow-up care for elders discharged from the emergency department was recommended by Denman et al. (1989) and Lowenstein et al. (1986). Finally, studies conducted by Hendriksen et al. (1989) and Ramsdell et al. (1989) concluded that preventive home visits would decrease readmissions to the hospital. Limitations of the study included the small sample size, restrictions placed on environment and time for data collection, and history as a threat to validity. However, based on the findings from this study and similar findings from previous research, the need for continued investigation of the impact by GNC intervention on elders who use the emergency department is imperative.

Nursing Implications

Due to lack of research in the care of the elderly client post-discharge from the emergency department, additional studies need to be done to explore the value of using a nurse clinician with geriatric expertise in the emergency department. This specialist's responsibilities could include initial assessment, evaluation, and discharge planning for follow-up care. The GNC is in a key position to develop consistent care for the elders who use the emergency department, including telephone and home visit support.

Emergency services are significantly affected because of the rapid growth of the elderly population which requires specialized attention. The role of the GNC in the emergency department setting is to act as advocator for the elders and to assure a high level of quality care by establishing patient outcome measures to improve the quality of elder care. Also, the GNC could be instrumental in the development of programs to provide alternative health care services for the elders who use the emergency department. Examples might include (a) established hours when a GNC is available in the emergency department to assist elders with chronic health care needs, (b) provide day care clinic for elders adjacent with the emergency department for referrals and follow-up care, (c) a Quality Assessment program which focuses monitor specific to the emergency department and monitors outcome of elders, and (d) a support network that offers financial options, transportation services, and educational information that would be available to elders and their families.

Recommendations

As a result of the data obtained in this study and related literature, the following recommendations for future research were made:

1. The study should be replicated with a larger sample and using a time series design.

2. A study should be implemented using the significant other as the focus to validate Wiedenbach's Theory of Helping.

3. The study should be replicated using alternative interventions, such as training the significant other as the helper to reduce emergency department visits.

4. A study should be implemented with the focus on environmental safety of inner city elders.

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APPENDICES

APPENDIX A
EMERGENCY CARE FOLLOW-UP QUESTIONNAIRE

Emergency Care Follow-Up Questionnaire

PART A: Information obtained from the client's medical record.

PART B: Information obtained from interview with client, following a set script.

PART A

Date of emergency room admission: _____

Medical Record #: _____

Age: _____ Sex: Male _____ Female _____

Ethnic Background: _____ Prior E.R. Admission: _____
 Diagnosis at that time: _____

- _____ 1. White
 _____ 2. Black
 _____ 3. Oriental
 _____ 4. Spanish American
 _____ 5. Native American
 _____ 6. Other

Arrival to emergency room:

- _____ 1. Ambulance
 _____ 2. Ambulatory
 _____ 3. Wheelchair
 _____ 4. Self
 _____ 5. Family member
 _____ 6. Other

Significant other lives with client? Yes _____ No _____

Insurance coverage: Medicare _____ Medicaid _____ Other _____

Address:

Telephone Number: _____

PART B

Diagnosis: _____

Discharge Plan: _____

Verbal permission will be obtained upon initial telephone contact with client.

1. Did you follow the treatment instructed by the doctor?
 Yes
 No

If "No," why not?

- a. Lack of understanding
 b. Financial reasons
 c. Other

If reason checked, action taken by GNC to clarify:

- a. Discharge instructions: _____

 b. Transportation options: _____
 c. Financial options: _____
 d. Other: _____

2. Did the doctor give you any prescription for medication, or change any of your medication?
 Yes
 No

If "Yes," are you taking the medication as the doctor ordered?

- Yes
 No

If "No," why?

- a. Do you need the medication filled?
 b. Lack of understanding
 c. Transportation
 d. Not important
 e. Side effects
 f. Other

If reason checked, action taken by GNC to clarify:

- a. Discharge instructions: _____

 b. Transportation options: _____
 c. Financial options: _____
 d. Other: _____

3. Do you have a regular doctor?

Yes
 No

If "Yes," when was your last visit? _____

4. Do you have an appointment for follow-up visit with a doctor?

Yes
 No

If "No," why not?

a. Lack of understanding
 b. Transportation
 c. Financial reasons
 d. Not important
 e. Other

If reason checked, action taken by GNC to clarify:

a. Discharge instructions: _____

 b. Transportation options: _____
 c. Financial options: _____
 d. Other: _____

5. Do you receive home health service?

Yes
 No

If "Yes," how often? _____

6. Do you feel that your health has improved since your visit to the emergency room?

Yes
 No

If "No," why not? _____

7. What is your opinion of the services received in the emergency room on _____?

(Date)

8. Tell me ways that services could be improved.

 Date of Phone Call: _____ Participant Group # _____
 Date of Home Visit: _____
 No intervention: _____

Researcher's Comments:

APPENDIX B

APPROVAL OF COMMITTEE ON USE OF HUMAN
SUBJECTS IN EXPERIMENTATION



MISSISSIPPI
UNIVERSITY
FOR WOMEN

Columbus, MS 39701

Vice President for Academic Affairs
P.O. Box W-1603
(601) 329-7142

May 28, 1991

Ms. Lynn Smith
c/o Graduate Nursing Program
Campus

Dear Ms. Smith:

I am pleased to inform you that the members of the Committee on Human Subjects in Experimentation have approved your proposed study on "Impact of Follow-up Encounter by a Geriatric Nurse Clinician on Readmission to the Emergency Department or Hospital by Elderly Clients."

I wish you much success in your research.

Sincerely,

A handwritten signature in cursive script, appearing to read "T. Richardson".

Thomas C. Richardson
Vice President
for Academic Affairs

TR:wr

cc: Dr. Blow
Dr. Hill
Dr. Barrar
Dr. Rent

APPENDIX C
PERMISSION TO CONDUCT STUDY

8735 Oakwood Drive
 Olive Branch, MS 38654
 April 16, 1991

St. Joseph Hospital
 220 Overton Avenue
 Memphis, TN

ATTENTION: Administrator/Medical Director

Dear Sirs or Madams:

I am a registered nurse and graduate nursing student at Mississippi University for Women in Columbus, Mississippi. As part of my studies, I am conducting research on the need for preventive care in the elderly population. This study will be conducted on clients who utilize the services of the Emergency Room at St. Joseph Hospital in Memphis, Tennessee.

The research proposal has been approved by a Faculty Research Committee and the Institutional Review Board at the University of Mississippi. I am requesting your authorization to review the medical records and to interview participants involved in the study. All information will be strictly confidential and will be used only for the purpose of this study.

Sincerely,

Lynn Smith, RN

I have read the above letter and I understand the purpose of the study. I hereby give my approval for the researcher (Lynn Smith) to review records and interview participants for this research study.

 Date

 Administrator, St. Joseph Hospital

 Date

 Medical Director for Emergency
 Services, St. Joseph Hospital

APPENDIX D
SCRIPT FOR TELEPHONE CONTACT

Script for Telephone Contact

"Hello, my name is Lynn Smith. I would like to speak to _____.

_____, this is Lynn Smith from St. Joseph Hospital. I am following up on your recent visit to the emergency room at St. Joseph Hospital. I would like to ask you some questions about the services you received and ways these services can be improved. Your responses will be kept entirely confidential, and your name will not be used. I would like your permission to record your answers on my form. Yes___ No___. There are eight questions, and we should be finished in approximately 10 minutes."

Ask questions directly off Emergency Care Follow-Up Questionnaire (see Appendix A).

At completion of interview:

"Thank you so much for your time, _____.
It has been my pleasure to discuss these issues with you."

APPENDIX E
SCRIPT FOR HOME VISIT

Script for Home Visit

"Hello, my name is Lynn Smith. I would like to speak to _____.

_____, this is Lynn Smith from St. Joseph Hospital. I am following up on your recent visit to the emergency room at St. Joseph Hospital. I would like to ask you some questions about the services you received and ways these services can be improved. I would like to personally interview you and request permission to visit you in your home. There are eight questions on the form and the visit will only last approximately 20 minutes.

What time would be convenient for my visit? _____

Would you please give me directions to your home?

Thank you."

APPENDIX F

SCRIPT FOR TELEPHONE CONTACT FOR PERMISSION
TO VISIT HOME

Script for Telephone Contact for Permission
to Visit Home

"I am Lynn Smith from St. Joseph Hospital. Thank you for allowing me in your home. I would like to ask you some questions about the services you received and ways these services can be improved. Your responses will be kept entirely confidential, and your name will not be used. I would like your permission to record your answers on my form. Yes_____ No_____. There are eight questions and we should be finished in approximately 10 minutes."

Ask questions directly off Emergency Care Follow-Up Questionnaire.

At completion of interview:

"Thank you so much for your time, _____.
It has been my pleasure to visit in your home and discuss these issues with you."