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Spirituality and compliance correlates of hemodialysis patients

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SPIRITUALITY AND COMPLIANCE CORRELATES OF HEMODIALYSIS PATIENTS

A Project

Presented to the

Faculty of

California State University,

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In Partial Fulfillment

of the Requirements for the Degree

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ABSTRACT

Increased attention is being paid to the spiritual domain and its relationship to factors such as quality of life (Wright, 2002). The significance of having a spiritual relationship for chronically ill patients receiving dialysis treatments may prove more beneficial for them regarding their compliance with and quality of life, than their counterparts that do not profess to have a spiritual relationship. A quantitative method was used to measure the spirituality of hemodialysis patients and its relationship with their compliance with dietary and fluid restrictions. Patients may benefit from inclusion of clergy in the treatment team in an effort to improve compliance and outcome measurements.

Results from this study indicated that spirituality does not have an effect on the level of compliance.

DEDICATION

To our faithful companions,

Bill and Jake

Greg and Lady

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CHAPTER ONE

INTRODUCTION

Hemodialysis is a life sustaining treatment for patients whose kidney function has decreased or failed, making necessary this artificial means of cleaning the excess toxins and fluid out of their blood. Without this regularly scheduled maintenance of hemodialysis treatments three times per week the patient would die in a matter of days or weeks. For a patient, knowing that they are dependent on hemodialysis for life sustenance raises the issue of their mortality and quality of life. Their means of coping with these mortality issues affects their quality of life through the daily choices they make regarding their compliance with their restricted renal diet, fluid restriction and compliance with their three-hour dialysis treatments three times per week. Noncompliance with any of these issues affects their quality of health, quality of life and mortality.

Compliance with the restricted regimen of the renal diet, fluid and medications is a critical significant factor in determining the continued health and well-being of the patient. Non-compliance is interpreted as a means of adjustment, coping with and acceptance of their disease

and is a concern for the dialysis facilities. The issue of the importance of psychosocial adjustment was recognized as a concern and addressed when Medicare regulations mandated that each dialysis center be required to employ a social worker. In 1973 Congress mandated that every dialysis center employ a Master's level social worker to provide psychosocial services for the patients. The role of the dialysis social worker is to provide support and counseling in an effort to facilitate coping with their treatment regimen.

The medical model can be interpreted as a constraint to the approach of spirituality as an intervention for compliance. The medical model approach of treating the dialysis patient was not intended to not focus on the spiritual aspects of the patient and may affect the patients' compliance with their treatment. In this study the transpersonal theory of spirituality is considered to facilitate a more holistic approach to the treatment and compliance of the patient. This study attempted to understand the role spirituality plays in facilitating the hemodialysis patient in their coping and compliance.

Problem Statement

Spirituality and compliance correlates of hemodialysis patient's. Do patient's who ascribe to a religion or spiritual belief system comply more successfully with the regimented treatment of hemodialysis than those who do not claim to have a spiritual belief system.

Purpose of the Study

The purpose of a study of spirituality and its relationship to the compliance of hemodialysis patients is to consider changing the approach of the treatment team in the dialysis setting. The interdisciplinary treatment team at the dialysis center consists of physicians, nurses, dietitians, and social workers. One of the many roles of the dialysis social worker is to facilitate the adjustment to and acceptance of the patient's need for dialysis. Initial assessments are completed, regularly documentation of progress is monitored and coping mechanisms addressed.

This was a quantitative and qualitative study conducted by survey. The source of data was clients undergoing regularly scheduled hemodialysis treatments. The survey addressed the dependent variable of compliance. Independent variables were based on the client's

identification and response to the questions about spirituality.

This study intended to examine if the spirituality of hemodialysis patients influences their compliance with their treatment regimen. It examined the patient's level of spirituality, if any, and that was compared to their lab values for potassium, phosphorus and fluid intake. Measurable excess of more than two of the three determinants of compliance (potassium, phosphorus and fluid) was interpreted as noncompliance with their dialysis regimen.

Determining spirituality influences on compliance of the hemodialysis patient could change the treatment team approach by adding clergy to the interdisciplinary team in an effort to improve compliance outcome and quality of life. The development of a treatment plan for the patient is determined from input from the treatment team and patient in the hemodialysis setting is part of quality patient care and the Dialysis Outcomes Quality Initiative (DOQI) guidelines. DOQI was established in 1995 and set clinical standards of clinical practice to improve the care delivery of dialysis patients to improve the quality of life. The study of spirituality and its relation to the compliance of the hemodialysis patient could change the

approach of the treatment team by adding clergy. Their input, influence and supportive spiritual counseling in the dialysis setting may improve compliance, an outcome that is used by the agency to measure quality of care and life of the patient.

Defining Spirituality

"Spirituality is a human need" (Sermabeikian, 1994, p. 4). Definitions of spirituality refer to it as involving a deeper inner essence of who we are and that it relates to our souls (Doka, 2003). Religion, defined, is a communal structured community with established beliefs of people as a group, that have guidelines for behavior while not physically a part of that group (Doka, 2003). While religion is communal in faith, spirituality is a way of interpreting the meaning of ones existence that is ones own authentic way of interpreting life and is very personal (Doka, 2003).

Social workers need to consider whether or not there is a way of determining the "common heart of compassion underlying the differences among religion and spirituality" as they attempt to develop a moral and ethical framework that honors religious and spirituality and discovering a common ground (Canda & Furman, 1999,

p. 27). Religious and spiritual diversity is representative in the beliefs of Christians, Buddhists, Jews, and Existentialists and in mythological perspectives. Contemporary social workers generally distinguish and strive to compliment individual well-being.

Spirituality relates to being human through the search for a moral framework, seeking meaning and purpose of life. It may be express through religious rituals or independent of an institution. Religion is a community with "institutional patterns of beliefs, behaviors and experiences oriented toward spiritual concerns and traditions passed on over time" (Canda & Furman, 1999, p. 37).

Professional social work was partly developed out of Judeo-Christian religious movement and theological terms and belief of charity and community service. Religious diversity today "requires that spirituality be addressed in and inclusive manner" (Canda & Furman, 1999, p. 42).

Significance of the Project for Social Work

Contemporary social work takes place in the context of managed care systems. Government based standards of utilization review systems that are "pressured toward

short term technocratic ways of service" that impact the care of the patient/client. Restrictive insurance policies play a significant role in the implementation of services for the client. Spiritual sensitivity can be incorporated into all situation and modalities of practice by social worker so that clients are treated with humanity, compassion and judiciously in managed care or any other setting (Canda & Furman, 1999).

Since professional social work developed out of religious movements for charity and community service, the early discussions of spirituality and religion hinged on particular theological terms and beliefs that were mainly Judeo Christian. Conversely, it has been recognized that the increase in religious diversity, the principles of church and state separation and client self-determination require that spirituality be addressed in an inclusive manner (Canda & Furman, 1999).

This study addressed the evaluation portion of the generalist process. "Evaluation 'is a process of assessing the worth of an undertaking'" (Kirst-Ashman & Hull as cited in Kirst-Ashman, 1999, p. 296). With this process in mind the results found that compliance of hemodialysis treatment was not significantly affected by the clients' spirituality.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The areas researched addressing the issue of what role spirituality plays in compliance of hemodialysis patients begins with the interpretation and definition of religion and spirituality. Literature that examines the need for social work practice to address spirituality, spirituality in relation to the nursing perspective, coping mechanism, and chronic illness are reviewed. Measurement of health control scales are reviewed along with hemodialysis and compliance and the definition of compliance in relation to hemodialysis treatment and regimen.

Religion and Spirituality

Religious mechanisms can provide an interpretive framework for coping, enhanced resources through social support and promote social integration (Siegel, Anderman, & Schrimshaw, 2001). There are many definitions of spirituality and it can be described as a dimension that gives individuals a sense of well being (Narayanasamy, 2002). It can be interpreted as the understanding of one's life, its meaning and value and the way people view their

ultimate meaning in life (McClain, Rosefeld, & Breitbart, 2003).

The earliest social work practices were linked to religion and sponsored by religious organizations. Social works' historical roots were based on a common spiritual mission and gradually went through a secularization and professionalization process (Larimore, Parker, & Crowther, 2002, p. 69).

The 20th Century witnessed the replacement of religion and spirituality with secular humanism and libertarian morality as the primary source of ethics and values. The academic, scientific and medical communities considered religion and science to be "separate realms of thought (Larimore et al., 2002, p. 69). Since then, research has indicates, that religious and spiritual beliefs have clinical relevance and that the previous notion that religion and science were to be considered be "separate realms of thought" was based on non-evidence clinical impressions (Larimore et al., 2002, p. 69). As a result, the end of the 20th century, organizations such as the Council of Social Work Education in 1995 and the Association of Medical Colleges in 1998 recognized and called for better training and greater sensitivity of clinicians concerning the assessment and treatment of

patients through the management of the patients' religious and spiritual issues (Larimore et al., 2002).

Social workers regularly encounter clients going though crises physically, mentally and spirituality. The School of Social Work at Loyola University in Chicago is training their social work students to manage spiritual crisis and to responding competently to the clients spiritual crisis. The purpose of the program is to train spirituality sensitive social workers, encourage positive spiritual support of clients and based on the belief that their clients should not be deprived of spiritual support and comfort that may be the basis of their hope and wellbeing (Heffern, 2001).

Spiritual Coping Mechanisms

Health related literature has begun to recognize spirituality and its importance in health and illness. Spirituality is explained as a dimension of being human which gives individuals a sense of being (Chandler & Holden, 1992). A literature review of spiritual coping mechanisms of chronically ill patients states spiritual care can be therapeutic for patients (Cohen as cited in Narayanasamy, 2002). These studies were carried out in order to understand further the spiritual coping

mechanisms of patients suffering from chronic illness. A qualitative methodology based on descriptive phenomenology was used to capture participants lived experience. The main theme emerging from this study suggests that chronic illness led participants to use faith, prayer, and related sources of support as spiritual coping mechanisms.

Chronic Illness and Spirituality

Chronic illness can be referred to as an altered state that can not be cured by a surgical intervention or a brief course of medical therapy (Miller, 1994). Researchers investigating spirituality and chronic illness have found spirituality to be a powerful resource for coping with health related problems and that religion acted as an important source of support for many patients (Yates et al. as cited in Miller, 1994). A study of thirty-five hemodialysis patients found that hope, prayer, and trust in God were prominent coping mechanisms (Baldree et al. as cited in Miller, 1994). Another study found that arthritis patient's reported a significantly higher level of religious well being, when acknowledging having a spiritual relationship (Miller, 1994).

A study of spirituality and hemodialysis patients focused on the clinical practice of nurses and was

presented as a theoretical framework to guide nursing practice (Walton, 2002). The purpose of the research was to identify how spirituality influenced the lives of hemodialysis patients. Participants included only eleven patients and the research questions asked were: What does spirituality mean to hemodialysis patients? And how does spirituality influence their lives? (Walton, 2002). Spirituality in this study was defined and categorized into four phases, confronting mortality, reframing, adjusting to dialysis and facing challenges. Acceptance of and adjusting to dialysis can be measured by a patient's compliance with their regimen, though this study did not address the issue of measuring compliance.

Another study regarding spirituality and chronic illness from the nursing perspective was conducted to understand that patients suffering from chronic illness use "spiritual mechanism" of faith, prayer and those nursing interventions that are sensitive and supportive of the patients spiritual needs benefit the patient (Narayanasamy, 2002).

Measurement of Health Control Scales

External sources of health control related to physical, psychosocial outcomes of management of illness

have received less attention than internal sources of control. Literature exists regarding the importance of both the physical and psychological adjustment to illness and a sense of personal control has been related to positive outcomes (Wallston, Malcane, & Flores, 1999). A measurement scale, the God Locus of Health Control (GLHC), was developed to assess the degree an individuals' belief in God control of their health status. Evidence that supports the majority of adults in the United States believe in God and that belief in God's function in their illness and controlling health can be important to an individual with a chronic illness. The GLHC scale is and important instrument for identifying the religious and spiritual cognitive patterns of thought and behavior that impede or facilitate compliance and acceptance of illness.

Hemodialysis and Compliance

Hemodialysis is the process of cleaning the blood of toxins and removing excess fluid for those whose kidney function has decreased or failed. They are required to undergo regularly scheduled maintenance treatments three times per week and must follow a complex diet that restricts some or all foods containing potassium, phosphorus, sodium and fluid (Durose, Holdsworth, Watson,

& Przgrodzka, 2004). Compliance can be broad and include all aspects of the regimen though some research on noncompliance addresses only the issue of missing or shortening treatment time and medication regimen (Baines & Jindal, 2000). Measurement of noncompliance has been done through the use of transportation records, fluid volume, measured by weight gain between treatments and blood urea, serum potassium and phosphate values over the course of consecutive months (Baines & Jindal, 2000). Reliable transportation can be a major concern for the chronically ill hemodialysis patient and may not be a good measurement for compliance. Transportation for the patient can be delayed due to circumstances unrelated to patient and reflects a conclusion of noncompliance as a result of being brought late to treatment resulting in shortening of treatment.

Theories Guiding Conceptualization

Transpersonal theory is utilized in many disciplines including mental health, social work, the medical field and religions (Canda & Furman, 1999). Its foundations have come from Eastern and Western spirituality as well as modern day science (Canda et al., as cited in Canda & Furman, 1999). Transpersonal theory, similar to

existentialism, is interested in looking at a generic form of spirituality verses specific religious groups' rituals or beliefs (Canda & Furman, 1999). Transpersonal theory, not unlike existentialism and humanism, is concerned with personal and social structures that cause an individual "to be alienated, oppressed or feel meaningless" (Cowley & McGee, as cited in Canda & Furman, 1999, p. 161). Transpersonal theorists believe that the solution to this problem lies in the experiences of the individual with people and their environment.

Abraham Maslow is responsible for introducing transpersonal theory in 1969 as a "fourth force" to psychology; the other three forces being, Freudianism, behaviorism and humanistic psychology (Canda & Furman, 1999, p. 161). Transpersonal theory was developed to address the "further reaches of human nature" (Canda & Furman, 1999, p. 161). Maslow disagreed with Freud's theory that religious institutions were based on "neurotic reality-denying fantasies and normative controls" (Canda & Furman, 1999, p. 162). He further disagreed with behavioralism which defined humans responding to stimuli and conditioning. Neither of theirs two theories made a distinction between religion and spirituality (Canda & Furman, 1999).

CHAPTER THREE

METHODS

Introduction

This chapter discusses the purpose of this study and the procedures used to examine the spirituality of the hemodialysis patient and its effect on compliance with their treatment. This study was based on the hypothesis that patients who have a spiritual relationship are more compliant with their hemodialysis treatments then the patients who do not claim to have a spiritual relationship.

Study Design

This was a quantitative and qualitative study, conducted by surveying patients that were undergoing regularly scheduled hemodialysis treatments three times per week. The first part of the survey addressed the dependent variable of compliance, the patients' effort to adhere to dietary and fluid restrictions. The second part of the questionnaire addressed independent variables of spirituality, age, gender, marital and living status and level of education of the patient.

Data from the questionnaire, completed by the patients and their laboratory values, that are drawn

monthly, were compared to determine if there are spirituality and compliance correlates and if spirituality plays a role in the compliance of hemodialysis patients.

Sampling

Gambro Dialysis Center in Chino, California is where the data were collected. There were approximately 130 patients that dialyze three times per week there, distributed throughout a six day a week schedule. Patients dialyze three days a week for several hours either on Mondays, Wednesdays and Fridays or Tuesdays, Thursdays and Saturdays. Each day of the six day a week schedule is divided into a first, second and third shift consisting of early morning, midmorning and afternoon. There are approximately twenty-five patients per shift. The sample was chosen on a voluntary basis. Every patient that dialyzes on Mondays, Wednesdays and Fridays, first, second and third shifts was given the opportunity to participate. The total number of participants was thirty-two.

Samples were obtained from each of the three shifts during the Monday, Wednesday and Friday patient schedule in an effort to include a diverse population and to provide equal opportunity for participation from patients that receive their treatment at different times of the

day. Dialysis patients choose to have their regularly scheduled hemodialysis treatments on a particular shift due to their individual life circumstances. For example, some patients are employed and tend to be scheduled on the third shift, following work. The survey sampled all three shifts in an effort to avoid bias from the type of patient that might occur on a certain shift.

Informed consent included acknowledgement and permission from the patient to access compliance variables from their medical files, i.e. laboratory values, to collect the data that determined their compliance. Corporate and administrative authorization for the study was obtained from the Regional Vice President of Gambro Healthcare, Rich Seebold.

Data Collection and Instruments

Data was collected to determine the association between the hemodialysis patients' spiritual belief system (independent variable) and their compliance (dependent variable) with their restricted diet and fluid regimen. Data were drawn from the patients to measure their spiritual belief by means of a questionnaire. Data were drawn from the patients' medical file to obtain laboratory values that determined compliance.

A questionnaire using both quantitative and qualitative questions was used to measure the independent variables of spirituality, age, gender, ethnicity, duration on dialysis and level of education of the hemodialysis patient. The level of measurement for age, level of education and duration on dialysis was scale. The level of measurement for gender, and ethnicity was nominal. A Likert type scale was used to measure spirituality. Responses on the Likert scale were: strongly agree (1), agree (2), disagree (3), and strongly disagree (4). Included were fourteen quantitative questions and one qualitative question (What motivates you to comply with your dietary and fluid restrictions?).

The dependent variable of compliance was measured by gathering data from the patient's medical records, specifically, the laboratory report that contained the concentration of potassium and phosphorus in the patients blood and documentation of their fluid weight gains over recommended levels. The laboratory values of one month, the month the survey was conducted, were used to determine the patients' compliance. Compliance with two of the three lab values in one month was considered as the patient being compliant with regimen.

Procedures

Data were gathered by using a questionnaire designed specifically for the survey. The survey consisted of open and close-ended questions. The participants were patients that receive hemodialysis on Mondays Wednesdays and Fridays first second and third shift. Each patient was asked if they would like to participate by surveyor. Patients had the option of completing the questionnaire on their own or for the surveyor to ask them the questions and record their response. The goal was to maintain un-biased responses, as well as allowing the patients not to feel as though they were pressured into participating in the research project. The laboratory data was collected during the same month the survey was conducted, September 2004.

Three people in addition to the creators of this study were responsible for obtaining the data. Ada Ocasio, MSW Graduate student and Dialysis Social Worker and Debbie Ernest, MSW, Dialysis Social Worker were the primary persons who obtained the data by distributing the survey. The dialysis facility dietitian, Randi Brum, assisted with gathering laboratory and fluid values of the participants.

The patient was informed of the purpose of the study along with the protection of their confidentiality. The

patient signed the informed consent and was assured that their treatment would not be affected in any way because of their participation in the study. All data were completed by the month of March 2005, and was entered and evaluated by the two students doing the research.

Protection of Human Subjects

Participation in this study was strictly voluntary and each participant was given a letter of informed consent and a debriefing statement. No information about the patient was used to identify participants. Subjects' identities appeared only in numeric form. The debriefing statement described the purpose of the study in detail including the definition of spirituality. The informed consent explained to the patient the purpose and goal of the study. Confidentiality of participants was protected at all times. Results of this research were reported without any details about the patients that would cause any harm.

Data Analysis

The quantitative questionnaire measured the independent variables of spirituality, age, gender, ethnicity, marital status and living situation. Laboratory values from the month that the survey was conducted were

compared to examine if there was a relationship between their degree of spirituality and compliance with dietary and fluid regimen.

The analyses examined what variables, if any, correlate with compliance of the hemodialysis patient.

Summary

This research attempted to establish whether a patient who subscribes to a spiritual philosophy complied with hemodialysis more readily and consistently then the patient who does not have a spiritual component in their life. Results assisted the patient as well as the interdisciplinary treatment team to enhance the patient's well being and enable the team to provide quality care to the patient.

CHAPTER FOUR

RESULTS

Introduction

Bivariate analysis was used to compare the hemodialysis patient's compliance to their dialysis regimen. Measurements of compliance were based on the patient's individual blood laboratory values and interdialytic weight gains (IWG) to determine compliance in this study. The dependent variable guiding this research, compliance, was compared to the spirituality responses the hemodialysis patient chose. Presentation of the findings in addition to the measurement methods for determining compliance and compliance will be presented and reviewed.

Presentation of the Findings

As outlined in Chapter Three, this was a quantitative and qualitative study conducted by surveying hemodialysis patients that were undergoing regularly scheduled hemodialysis treatments. Compliance of the respondents' was compared to the participants answer to the spirituality questionnaire.

Compliance was measured by reviewing the respondent's laboratory report that contained the concentration of

potassium and phosphorus in their blood and the documentation of their fluid weight gains over the recommended levels. The levels of acceptable potassium, phosphorus and fluid weight gains were guided by the Dialysis Outcomes Quality Initiative (DOQI) and protocol based on the medical director of the dialysis facility. For the purpose of this study the parameters of compliance were based on the DOQI recommendations and the medical directors' adherence and protocol that are standardized. Acceptable potassium levels were to be within 3.5-5.5, phosphorus within 3.5-5.5 and IWG not to exceed 2.5 kilograms over the individual's determined dry weight of the month that the survey was conducted. Compliance with two of the three lab values in one month was considered as the patient being compliant with regimen. Spirituality was measured by participants chosen responses to the Likert type scale and consisted of 14 quantitative questions.

Out of the 72 hemodialysis patients dialyzing at the facility, 33 patients participated in the survey. Of the 33 patients that participated in the study the oldest was 85 years of age and the youngest was 26 year of age. The average age was fifty-five. Of the surveys completed 36.4% were male (n = 12) and 63.6% were female (n = 21).

Demographics

Questions three through seven (see Appendix D) collected demographic information regarding marital status, level of education and the ethnic group of the participants.

Results indicate in Table 1 that 48.5% were not married (n = 16) and 51.5% were married (n = 17). Of the seventeen married respondents, thirteen (76.5%) were compliant while four (23.5%) were non-compliant. Of the sixteen not married respondents, ten (62.5%) were compliant and six (37.5%) were not. This difference was not significant (Chi-square = .726, df = 1, p = .383).

Table 1. Crosstabulation for Married/Not Married and Compliance

		Compliance Yes	Compliance No	Total
Married/not-married	Not Married	10	6	16
	Married	13	4	17
Total		23	10	33

Results indicate in Table 2 that the highest level of advanced education was twenty years of schooling and the least was none or elementary school. Of the thirty-three respondents in the educations range of none to elementary,

there were seven respondents: five (71.4%) were compliant and two (28.6%) were non-compliant. The one respondent in the education range of middle school was compliant. In the education range of High School, there were fifteen (45.5%) respondents. Of the fifteen, nine (60.0%) were compliant and six (40.0%) were non-compliant. In the education range of Undergraduate there were nine (27.3%) respondents. Of the nine, seven (77.8%) were compliant and two (22.2%) were non-compliant.

The one respondent with advanced education was compliant. These differences could not be tested statistically due to the small sample size.

Table 2. Level of Education and Compliance

		compliance yes	compliance no	Total
Education range none or elementary	Count	5	2	7
Middle School	Count	1	0	1
High School	Count	9	6	15
Undergraduate	Count	7	2	9
Advanced Education	Count	1	0	1
Total	Count	23	10	33

Results indicate in Table 3 that four respondents, (12.1%) were African-American. Two (50.0%) were compliant and two (50.0%) were non-compliant.

The one Asian American/Pacific Islander was compliant. Eleven respondents (33.3%) were Caucasian/Euro-American. Seven (63.6%) were compliant and four (36.4%) were non-compliant. Fifteen respondents (45.5%) were Latino (a)/Hispanic-American. Eleven (73.3%) were compliant and four (26.7%) were non-compliant. There were two respondents (6.1%) categorized as other and both (100.0%) were compliant. Again, these differences could not be tested for significance.

Table 3. Level of Group Ethnic and Compliance

race/ethnic group * compliance Crosstabulation
Count

		compliance yes	No	Total
race/ethnic group	African American	2	2	4
	Asian American/ Pacific Islander	1		1
	Caucasian/ Euro-American	7	4	11
	Latino(a)/ Hispanic-American	11	4	15
		7	2	2
Total		23	10	33

Spirituality Questionnaire

Questions 1-14 of the spirituality questionnaire consisted of a Likert type scale with eight questions related to the patients' feelings of having control over

their compliance and health and eight questions related specifically to spirituality. The patients answers to the eight quantitative questions relating to spirituality were categorized into four possible responses; Very spiritual, somewhat spiritual, not very spiritual and not spiritual. Participants were asked a variety of questions regarding if they have strong religious and spiritual beliefs, felt that religious and spiritual beliefs have an influence on their decisions of following their dietary regimen, believe in a higher power and if they feel a higher power has control over their health.

The percentage of respondents that strongly agreed and agreed to the eight spirituality related questions were examined and reflected more favorable, higher spirituality response than others. A more specific measurement of compliance was developed by creating a score that measured compliance to be compared to spirituality.

The four possible responses were Strongly Agree, Agree, Disagree and Strongly Disagree. The patients responses to the eight questions that were specifically related to spirituality demonstrated a pattern of strong agreement with the following questions related to having strong religious and spiritual beliefs, if religious and

spiritual beliefs help them to cope with dialysis treatments, believing that God or a higher power had control over their health, belief that God is the creator of all things and belief that they have a loyalty/obedience to God. Percentage of response to the questions (81%) and above that strongly agreed and agreed. One of the eight questions relating to belonging to a religious/spiritual organization percentage of agreement was (76%). Overall agreement with spirituality providing motivation for the patient to follow dietary recommendation and spirituality influencing their choices regarding dietary compliance was less that (57%) (see Appendix E).

A system of measuring spirituality was developed to rate the degree of spirituality regarding the eight spirituality questions. Each of the four possible responses was given an individual score: Strongly agree (1), Agree (2), Disagree (3) and Strongly disagree (4). There were eight spirituality questions making the highest possible score of 32 when the participant completed each question. The higher the score, the lower the spirituality score was determined and the lower the score the higher the spirituality was determined.

Results indicate that the respondents showing the most significant measurable compliance (lower score) were those who were receiving dialysis the longest which was five or more years.

Table 4. Length of Time Receiving Dialysis Treatments

			compliance yes	compliance no	Total
length of time (months to years) receiving dialysis treatments	less than 3 months	Count	4	0	4
	3 months to 1 year	Count	2	1	3
	1 to 5 years	Count	12	7	19
		% of Total	36.4%	21.2%	57.6%
	5 to 10 years	Count	3	2	5
		% of Total	9.1%	6.1%	15.2%
	10 year or more	Count	2	0	2
Total		Count	23	10	33

Along with these findings, there were three points of interest. The first was married/not married. Of the seventeen respondents who were married, thirteen (76.5%) were compliant and four (23.5%) were non-compliant. Of the sixteen respondents not married, ten (62.5%) were compliant and six (37.5%) were non-compliant.

Table 5. Married/Not Married

Married/Not Married		N	Mean	Std. Deviation	Std. Error Mean
Score	1.00	17	14.1765	4.01926	.97481
	2.00	15	15.9333	4.39913	1.13585

The second point of interest was compliance. Of the thirty-three respondents twenty-three (69.7%) were compliant and nine (30.3%) were non-compliant.

Table 6. Compliance

Compliance		N	Mean	Std. Deviation	Std. Error Mean
Score	Yes	23	14.9565	3.95978	.82567
	No	9	15.1111	5.10990	1.70330

The third point of interest was the race/ethnic group. Of the eleven Caucasian/Euro-American, seven (63.6%) were compliant and four (36.4%) were non-compliant.

Table 7. Race/Ethnic Group

Race/ethnic group		N	Mean	Std. Deviation	Std. Error Mean
Score	Caucasian/ Euro-American	10	16.9000	4.53260	1.43333
	Latino(a)/ Hispanic-American	15	14.7333	3.76955	.97329

The final and only qualitative question, number 15, determined, based on four categories, what motivates a hemodialysis patient to comply with their dietary and fluid restricted regimen. Question number 15 was, "What motivates you to comply with your dietary and fluid

restrictions?" Four categories were extracted from the participants' responses to that question and classified as: Health, Faith, Family, Self.

Key words were extracted from the narrative responses of the participants of the survey and categorized into four areas. Responses to question number 15 such as: "Because it is necessary for my health", "Staying healthy", "I want my health the best I can have" and "It's the right thing to do for my health" were categorized under the response of Health. In this category there were thirteen respondents (39.4%) The second possible categorization was faith. Responses that were placed in that category were as follows; "My faith in God" and "The Lord motivates me so I don't die any time soon". In this category there were two respondents (6.1%). The third category was Family. Responses that fell in that category were, "My husband", "My family and loved one's, my husband", My children" and My brother and sister in law, I live with them". In this category there were six respondents (18.2%). The final category of classification of key words was Self. Participant responses that were placed in that category were as follows; "Myself", "I want to feel good", "Not wanting to feel discomfort or suffering" and "Not feeling well, itchy". In this category

there were twelve respondents (36.4%). The results of this qualitative question demonstrates that the patient's concern for their health and self (desire to feel well) seem to be a motivation for compliance in this study.

Table 8. Crosstabulation for What Motivates You to Comply and Compliance

		compliance		Total
		yes	no	
what motivates you to comply	health	10	3	13
	faith	1	1	2
	family	3	3	6
	self	9	3	12
Total		23	10	33

Summary

The results of this study indicate that there is no significant relationship between spirituality and compliance of the hemodialysis patient's that participated in the survey. It demonstrates further that age, gender, marital status and level of education of the patient has no influencing relationship to compliance and that patients may find reasons of maintaining their health and self to be motivational factors for compliance.

CHAPTER FIVE

DISCUSSION

Introduction

This research examined the correlations of spirituality and compliance among hemodialysis patients. Increased attention is being paid to the spiritual domain and its relationship to quality of life of chronically ill patient's (Wright, 2002). The significance of having a spiritual relationship was hypothesized to have a positive influence with the dialysis patient regarding their compliance with their treatment to potential benefits for improved quality of life. By determining the spirituality influences on compliance of the hemodialysis patient, it was suggested that it could lead to changes in the treatment team's approach by adding clergy to the interdisciplinary treatment team at the dialysis facilities. Patients were thought to have benefited from inclusion of clergy in the treatment team by improved compliance, outcomes and quality of life. No significant relationship was determined from this research on spirituality and compliance of the hemodialysis patients surveyed.

Discussion

This research was conducted on 33 hemodialysis patients that receive regularly scheduled treatments at the Gambro Dialysis Facility in Chino, California to determine if there was a correlation of their spirituality and compliance with their treatment regimen.

This research was based on previous studies that support the theory that a patients' compliance with the restricted regimen of the renal diet, fluid and medications is a critical significant factor in determining the patients' health and quality of life (Moss, 2000).

Standardization of compliance was established in 1995 by the Dialysis Outcomes Quality Initiative (DOQI) which set clinical standards for clinical practice to improve the care delivery of dialysis patients to improve the quality of their lives. DOQI guidelines provide the standards of practice, guidelines and protocol maintained by the medical director of the dialysis facility for the parameters of compliance. Had it been determined that a patients' spirituality was related to compliance, the purpose of an initiative to add clergy was an attempt to provide spiritual and supportive counseling that would have affected patient compliance outcomes. Adding clergy

as part of the treatment team in the dialysis setting could improve the compliance and outcomes that are used by dialysis facility to measure quality of care and life of the patient.

No significant relationship was found between spirituality and compliance in the hemodialysis patients that participated in this survey.

In addition to no significant relationship between spirituality and compliance in the hemodialysis patients, found in this research, no demographic factors were found to influence compliance including age, gender, marital status or education.

Of interest, among the extracted responses to the qualitative question on the spirituality questionnaire, (Health, Faith, Family, Self), health was found to be the most significant motivator with regard to their efforts toward compliance. Motivational influences that followed were self, family and faith. Since health was found to be the most significant motivator with regards to the respondent's efforts towards compliance, the treatment team should emphasize the specific health benefits in the treatment plan for the patient.

Limitations

Limitations that apply to this project and reported in this research are associated with differing measurements of compliance, assessing types of compliance behavior, and the difficulty of defining spirituality.

Though there are standards of practice guidelines for compliance established by the Dialysis Outcomes Quality Initiative (DOQI), differing measurements of compliance in research occur when research attempts to determine what signifies compliance. This study measured compliance by the patient's adherence with the recommended levels of potassium, phosphorus and interdialitic weight gains. The patient was determined compliant in this study when they met the criteria in two of the three indicators of compliance.

Previous studies have measured compliance criteria as missed dialysis treatments and refusing to dialyze for the full length of their recommended treatment time. Means of measuring compliance in research may be inconsistent when compared with previous research conducted. Compliance research methods may use different indicators of compliance and there are no standardized guidelines when using multiple criteria of defining and measurement of compliance.

The problem with defining spirituality in research arises mainly in clarifying the construct (Brady et al., 1999). This study recognized the same difficulty as previous studies with this subject matter. Spirituality has been recognized as an important component of quality of life by the World Health Organization who have included spirituality as part of their quality of life instrument. Such instruments as the World Health Organization Quality of Life (WHOQOL) and the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-SP) have been developed to assess this matter through the use of standardized survey.

This research project's instrument, developed by the researcher for the purpose of this study, does not claim to be as a comprehensive an instrument as ones mentioned and previously established.

Finally, previous research has determined that when patients exercise control over their illness and feel a sense of personal control, which may be relative to positive outcomes in their illness (Wallston et al., 1999) spirituality has been determined to be an important component of quality of life. This research did not examine in depth how an individuals' sense of personal control is relative to compliance.

In relation to spirituality, when examining if there is a positive correlation with dialysis compliance, the argument may arise that people that are more spiritual might be less afraid of death and more accepting of "Gods plan" and so be less likely to comply (e-mail, January 8, 2005, B. J. Hailey).

Recommendations for Social Work Practice, Policy and Research

With this study, in view of the fact that the meaning of spirituality was different for each patient, as it is for most individuals, determining compliance was difficult to measure. Each person's definition of spirituality is based on a personal belief system or religion.

The social work practitioner should take into consideration each patient's personal belief system as they are supporting the patient's attempt to be compliant with their hemodialysis treatment.

The researchers recommend further studies to be more exact and to concentrate the focus on a specific religion (e.g. Catholic) for the reason that religion/religious beliefs often determine the degree of spirituality to which a patient adheres.

If this study had shown that patients who receive hemodialysis treatment were compliant as a result of their

spiritual belief system, the policy change would have been to mandate clergy as part of the treatment team. The current mandated Medicare regulations now require a social worker and a dietician.

Conclusions

Though research supports the importance of spiritual relationships in chronically ill patients, standardization of compliance was established 1995 which set clinical standards of practice to improve the patients' quality of life. This research study found no significant relationship between spirituality and compliance in hemodialysis patients.

APPENDIX A

QUESTIONNAIRE

Spirituality Questionnaire
(Please circle one)

1. **I have strong religious and spiritual beliefs.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

2. **I feel my religious and spiritual beliefs help me to cope with my dialysis treatments.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

3. **I feel that my religious and spiritual beliefs influence my choices with my dietary and fluid restrictions.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

4. **I feel I have control over my health.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

5. **I believe God or a higher power has control over my health.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

6. **I feel I have control of my dietary and fluid intake.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

7. **I follow my dietary and fluid restrictions strictly.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

8. **My religious and spiritual beliefs motivate me to follow my dietary and food restrictions.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

9. **I belong to a religious/spiritual organization.**

   1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

10. **Conditions beyond my control keep me from attending structured worship (i.e. no transportation or not feeling well enough to attend).**

    1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

11. **I have no interest in religious of spiritual worship.**

    1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

12. **I believe God is the creator of all things.**

    1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

13. **I feel a loyalty/obedience to God.**

    1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

14. **I attend worship services often.**

    1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

15. **What motivates you to comply with your dietary and fluid restrictions?**

APPENDIX B

INFORMED CONSENT

Informed Consent

You are being asked to participate in this research study, which is designed to examine compliance of hemodialysis treatment based on having a spiritual relationship. Paula Ferro and Gloria Fernandez, two graduate students in the Masters Social Work program at California State University San Bernardino, are conducting this study. In this study you as a participant will be asked about your spiritual relationship and compliance of hemodialysis treatment. All responses will be anonymous and participation is totally voluntary. The research team is operating under the supervision of Professor Rosemary McCaslin, Ph.D., Faculty, and Social Work Department. The Department of social work sub-committee of the California State University San Bernardino, Institutional Review, has approved this study.

If you have any questions or concerns about this study; contact Dr. Rosemary McCaslin at California State University San Bernardino, (909) 880-5507.

APPENDIX C

DEBRIEFING STATEMENT

DEBRIEFING STATEMENT

Thank you for your willingness to participate in this study.

The questionnaire that you have just completed was designed to measure having a spiritual relationship with compliance of hemodialysis treatments. The interview will be used to determine if spirituality and compliance of treatment are correlated. The study is an attempt to promote the health and well being of patients who are currently receiving hemodialysis or for patients who may need treatment in the future.

APPENDIX D

DEMOGRAPHICS

Please circle the appropriate number, check the appropriate response, or fill in the blank.

1. **What is your age? _____**

2. **What is your gender?**
   (Please circle the correct number)

   1. Male 2. Female

3. **What is your marital status?**

   1. Single 2.Married 3.Widowed 4. Divorced or separated

4. **Do you reside alone?**

   1. Yes 2. No

5. **What is your highest level of education? _____**

6. **How long have you been receiving dialysis treatments? _____**

7. **What is you race/ethnic group? (Please circle one)**

   1. **African American**
   2. **Asian American/Pacific Islander**
   3. **Bi/Racial/Multi-racial**
   4. **Caucasian/Euro-American**
   5. **Latino/Hispanic-American**
   6. **Native American/First nations/Alaskan Native**
   7. **Other (Specify) _____**

APPENDIX E

DATA

Crosstab
Count

		compliance		Total
		yes	no	
Has strong religious and spiritual beliefs	strongly agree	12	6	18
	agree	9	1	10
	disagree	1	3	4
	strongly disagree	1	0	1
Total		23	10	33

Crosstab
Count

		compliance		Total
		yes	no	
Religious and spiritual beliefs help me to cope with dialysis treatments	strongly agree	10	4	14
	agree	9	4	13
	disagree	1	2	3
	strongly disagree	3	0	3
Total		23	10	33

Crosstab
Count

		compliance		Total
		yes	no	
Religious and spiritual beliefs influence my choices with dietary and fluid restrictions	strongly agree	5	0	5
	agree	6	4	10
	disagree	11	4	15
	strongly disagree	1	1	2
Total		23	9	32

Crosstab
Count

		compliance		Total
		yes	no	
Religious and spiritual beliefs motivate me to follow dietary and fluid restrictions	strongly agree	1	1	2
	agree	13	4	17
	disagree	8	4	12
	strongly agree	1	0	1
Total		23	9	32

Crosstab
Count

		compliance		Total
		yes	no	
Believes God is the creator of all things	strongly agree	15	7	22
	agree	7	3	10
	strongly disagree	1	0	1
Total		23	10	33

Crosstab
Count

		compliance		Total
		yes	no	
Feels a loyalty/ obedience to God	strongly agree	12	5	17
	agree	9	4	13
	disagree	1	1	2
	strongly disagree	1	0	1
Total		23	10	33

Crosstab

			compliance yes	compliance no	Total
length of time (months to years) receiving dialysis treatments	less than 3 months	Count	4	0	4
		% within length of time (months to years) receiving dialysis treatments	100.0%	.0%	100.0%
		% within compliance	17.4%	.0%	12.1%
		% of Total	12.1%	.0%	12.1%
	3 months to 1 year	Count	2	1	3
		% within length of time (months to years) receiving dialysis treatments	66.7%	33.3%	100.0%
		% within compliance	8.7%	10.0%	9.1%
		% of Total	6.1%	3.0%	9.1%
	1 to 5 years	Count	12	7	19
		% within length of time (months to years) receiving dialysis treatments	63.2%	36.8%	100.0%
		% within compliance	52.2%	70.0%	57.6%
		% of Total	36.4%	21.2%	57.6%
	5 to 10 years	Count	3	2	5
		% within length of time (months to years) receiving dialysis treatments	60.0%	40.0%	100.0%
		% within compliance	13.0%	20.0%	15.2%
		% of Total	9.1%	6.1%	15.2%
	10 year or more	Count	2	0	2
		% within length of time (months to years) receiving dialysis treatments	100.0%	.0%	100.0%
		% within compliance	8.7%	.0%	6.1%
		% of Total	6.1%	.0%	6.1%
Total		Count	23	10	33
		% within length of time (months to years) receiving dialysis treatments	69.7%	30.3%	100.0%
		% within compliance	100.0%	100.0%	100.0%
		% of Total	69.7%	30.3%	100.0%

Crosstab

			compliance yes	compliance no	Total
Education range	none or elementary	Count	5	2	7
		% within Education range	71.4%	28.6%	100.0%
		% within compliance	21.7%	20.0%	21.2%
		% of Total	15.2%	6.1%	21.2%
	Middle School	Count	1	0	1
		% within Education range	100.0%	.0%	100.0%
		% within compliance	4.3%	.0%	3.0%
		% of Total	3.0%	.0%	3.0%
	High School	Count	9	6	15
		% within Education range	60.0%	40.0%	100.0%
		% within compliance	39.1%	60.0%	45.5%
		% of Total	27.3%	18.2%	45.5%
	Undergraduate	Count	7	2	9
		% within Education range	77.8%	22.2%	100.0%
		% within compliance	30.4%	20.0%	27.3%
		% of Total	21.2%	6.1%	27.3%
	Advanced Education	Count	1	0	1
		% within Education range	100.0%	.0%	100.0%
		% within compliance	4.3%	.0%	3.0%
		% of Total	3.0%	.0%	3.0%
Total		Count	23	10	33
		% within Education range	69.7%	30.3%	100.0%
		% within compliance	100.0%	100.0%	100.0%
		% of Total	69.7%	30.3%	100.0%

Crosstab

			compliance		Total
			yes	no	
Age Ranges	26-40	Count	1	2	3
		% within Age Ranges	33.3%	66.7%	100.0%
		% within compliance	4.3%	20.0%	9.1%
		% of Total	3.0%	6.1%	9.1%
	41-50	Count	1	3	4
		% within Age Ranges	25.0%	75.0%	100.0%
		% within compliance	4.3%	30.0%	12.1%
		% of Total	3.0%	9.1%	12.1%
	51-60	Count	8	1	9
		% within Age Ranges	88.9%	11.1%	100.0%
		% within compliance	34.8%	10.0%	27.3%
		% of Total	24.2%	3.0%	27.3%
	61-70	Count	7	3	10
		% within Age Ranges	70.0%	30.0%	100.0%
		% within compliance	30.4%	30.0%	30.3%
		% of Total	21.2%	9.1%	30.3%
	71-85	Count	6	1	7
		% within Age Ranges	85.7%	14.3%	100.0%
		% within compliance	26.1%	10.0%	21.2%
		% of Total	18.2%	3.0%	21.2%
Total		Count	23	10	33
		% within Age Ranges	69.7%	30.3%	100.0%
		% within compliance	100.0%	100.0%	100.0%
		% of Total	69.7%	30.3%	100.0%

Crosstab

			compliance		Total
			yes	no	
gender	male	Count	5	7	12
		% within gender	41.7%	58.3%	100.0%
		% within compliance	21.7%	70.0%	36.4%
		% of Total	15.2%	21.2%	36.4%
	female	Count	18	3	21
		% within gender	85.7%	14.3%	100.0%
		% within compliance	78.3%	30.0%	63.6%
		% of Total	54.5%	9.1%	63.6%
Total		Count	23	10	33
		% within gender	69.7%	30.3%	100.0%
		% within compliance	100.0%	100.0%	100.0%
		% of Total	69.7%	30.3%	100.0%

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ASSIGNED RESPONSIBILITIES PAGE

This was a two-person project where authors collaborated throughout. However, for each phase of the project, certain authors took primary responsibility. These responsibilities were assigned in the manner listed below.

1. Data Collection:

   Team Effort: Paula Ferro & Gloria Fernandez

2. Data Entry and Analysis:

   Team Effort: Paula Ferro & Gloria Fernandez

3. Writing Report and Presentation of Findings:

   a. Introduction and Literature

      Team Effort: Paula Ferro & Gloria Fernandez

   b. Methods

      Team Effort: Paula Ferro & Gloria Fernandez

   c. Results

      Team Effort: Paula Ferro & Gloria Fernandez

   d. Discussion

      Team Effort: Paula Ferro & Gloria Fernandez