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COMPARISON OF BODY IMAGE IN THREE GROUPS OF RENAL  
DISEASE PATIENTS

THE UNIVERSITY OF ARIZONA

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COMPARISON OF BODY IMAGE IN THREE GROUPS OF RENAL  
DISEASE PATIENTS

by

Violet Bernice Stevens

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A Thesis Submitted to the Faculty of the  
COLLEGE OF NURSING

In Partial Fulfillment of the Requirements  
For the Degree of

MASTER OF SCIENCE

In the Graduate College

THE UNIVERSITY OF ARIZONA

1984

STATEMENT BY AUTHOR

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## DEDICATION

This volume is lovingly dedicated to my special husband, James. His great support and understanding has helped make this endeavor possible.

#### ACKNOWLEDGEMENTS

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## ABSTRACT

The purpose of this study was to investigate whether there is any difference in perception of body image among three groups of renal patients. The questions addressed were: Is the perceived body image of patients on continuous abdominal peritoneal dialysis lower than hemodialysis patients? Is the perceived body image of patients on hemodialysis lower than pre-therapeutic physical alteration patients and higher than that of CAPD?

The sample consisted of 10 volunteer subjects in each group. Each subject completed a body cathexis scale and demographic questionnaires. Total mean body cathexis scores for the three groups were as predicted. A one way analysis of variance revealed a significant difference among groups. However, post hoc testing indicated the difference was due primarily to the difference between pre-therapeutic alteration and CAPD subjects. Health care providers should be aware of body image alteration in CAPD patients and include this in planning their total care.

## CHAPTER 1

### STATEMENT OF THE PROBLEM

#### Introduction

Because of our cultural emphasis upon wholeness, every individual, regardless of wellness or illness, cherishes and guards his or her wholeness. Body image is the way one sees one's own body, and if the body is altered, the image can also be altered (Roberts 1978).

Researchers suggest that chronic illness and physical alteration affect body image (Leonard 1972; Gallagher 1972). Renal failure patients on dialysis experience both chronic illness and a physical alteration for dialysis access. It is possible that there is more effect on body image in continuous ambulatory peritoneal dialysis (CAPD) patients and hemodialysis patients than in chronic renal patients who haven't yet begun some type of dialysis treatment which requires a physical alteration for access.

The primary goal of nurses and other health care providers is to deliver quality, total patient care. Therefore, a better understanding of body image of CAPD and hemodialysis patients can contribute to planning their care. Knowledge gained from this study on how patients think about different parts of their body can be useful in helping the patients adjust to any change in body image which can also affect compliance.

This chapter includes the overview and significance of body image generally and specifically in the three groups of chronic renal disease patients used in this study.

### Overview of the Problem

Chronic illness is a major medical problem today as is evidenced by the large number of hospital beds being occupied by chronically ill patients (Leonard 1972). Renal disease is a major type of chronic illness which in its end stages affects 55,000 Americans (Allen 1981). Even though hemodialysis is still the most common mode of treatment, the number of CAPD patients is increasing (Moncrief and Popovich 1979). There are many patients being seen in clinics who are diagnosed with chronic renal failure, but haven't yet required dialysis treatment. These patients who will eventually need an access for dialysis by CAPD or hemodialysis are referred to as pre-therapeutic physical alteration patients for the purpose of this study.

Both CAPD and hemodialysis require a physical alteration at different locations of the body. Although all parts of the body, clothing, etc. are part of the body image, each part assumes varying degrees of importance to different people (McCloskey 1976).

CAPD is looked upon as a resolution in the treatment of end stage renal disease. Rubin, et al (1980) says this technique offers many advantages financially, physiologically and in acceptability to the patients. However, no studies have been done to determine if there is any increase in alteration of body image in this group of renal patients. Not only have they lost a body function and experienced a surgical procedure, but they wear a permanent catheter inserted into the abdomen three to five centimeters below the umbilicus (Sampson 1980). There is also a tubing and bag attached to this catheter at all times that has to be hidden under the clothing in a pouch or mesh band around the waist.

The abdomen increases in size because, at the end of two weeks, two liters of dialysate are in the abdomen. This can affect the body and dress of the patient. Four to five exchanges are done every 24 hours, so employed patients are faced with the decision of where to perform the exchange during working hours. Many become embarrassed by this activity at their place of employment.

Like CAPD, hemodialysis requires a physical alteration. In this case a fistula or shunt is located in the arm or leg. Not only are there economical and physical complications with renal failure patients on hemodialysis, but there are psychological stresses also. Beard (1978) says all hemodialysis patients and families are involved in stressful situations that can alter their relationships and lifestyles. Minimizing stress associated with hemodialysis increases the patient's compliance (Foster 1978).

In order to minimize stress, nurses need to understand the three groups of renal patients including how they feel about different parts of their bodies. It would be helpful to know if the body image is lower in hemodialysis and CAPD patients than in those who have chronic renal failure but haven't begun dialysis treatments. These pre-treatment patients haven't undergone any physical alteration to provide dialysis access.

#### Significance of the Problem

How a person perceives his/her body image can be very important. An alteration in body image can become a crisis if the patient can't adjust to the change, and compliance to treatment can be offset.

Leonard (1972) points out that people invest emotions in their body and its well-being and they feel anxious if external or internal changes occur. Any alteration in the body is a disturbance of one's integrity and a threat to one's self. They feel fear of death, incapacitation, pain, abandonment, loss of self esteem and disturbance of interpersonal relationships. Alteration in body image can be as minor as a bruise or as major as disfigurement or surgical loss (Roberts 1978). Ford (1977) stated the entire self-image is affected in dialysis patients. CAPD and hemodialysis patients are affected first by a chronic illness, then the loss of a body function and finally, a physical alteration.

Many studies have been done on body image and some have been done using a body cathexis scale. A body cathexis scale measures the level of body self-acceptance of the individual by asking him to evaluate various parts of his body. A study done by Bille (1977) indicates there is a significant relationship between body cathexis and compliance with post-hospitalization prescriptions. Compliance is very important in chronic renal patients and it is the nurse's responsibility to use all knowledge and possibilities in promoting compliance.

According to McCloskey (1976), a patient's body image is his own unique way of perceiving his physical self and can have different effects. His perception can influence how he reacts to illness or surgery and whether he will leave the hospital emotionally intact or devastated. The nurse plays an important role in helping the patient adjust to this illness and any altered image.

Riddle (1972) noted that health care professionals often hold unrealistic expectations for patients in terms of the time required to master a health problem involving loss of function. Principles of nursing intervention can be derived from body image theory to assist patients in mastering health problems and overcoming body image threats.

The nursing process must include the total patient's needs and in order to administer to these needs, they must first be identified and understood. A body image disturbance or crisis can arise when a person fails to accept the changes and tries to cling to the old image (McCloskey 1976).

Thus, the problem of body image in CAPD and hemodialysis patients is significant for study as nurses are becoming increasingly aware of the body image concept and that it is affected by illness (Roberts 1978; Lindensmith 1977).

No longer can only the loss of obvious body parts be considered to affect body image. It has now been shown that less severe alterations also lead to reduced body image (Craft 1972). The functional significance of the body part involved also has a bearing on how much the change threatens the person's body image (O'Brien 1980).

Investigators have studied patients with colostomies (Lindensmith 1977; Gallagher 1972), burns (Singletary 1977), and mastectomies (O'Brien 1980) supporting the fact of an effect on body image by these physical alterations. Particularly, since the development of the body-cathexis scale by Secord and Jourard in 1953, some investigators have been looking more specifically at feelings about various parts of the body (Secord and

Jourard 1953; Ruggieri, et al 1979; Shane and Linn 1977; Mahoney and Finch 1976). The results of the above studies indicate that some parts of the body can be of more significance than others or an individual.

Murray (1972) says that events involving the face or torso are more closely associated with self-essence than events connected with appendages. Also, any circumstance that alters or endangers sexual identification can have a marked effect on the person's self concept.

Whitaker (1983) notes that in interviewing female CAPD patients, one of their greatest concerns image-wise, is for their sexual partner to see their naked body with the catheter. It is possible that the body image can be altered more with CAPD, which involved physical alteration of the abdomen than with hemodialysis involving the limbs.

Murray (1972) says each person is a product of his times and the society in which he lives and that self attitude will influence and be influenced by the person's physical appearance and ability. Therefore, a dialysis patient needs to be assisted in developing his best physical appearance and becoming as independent as possible in self care and maintenance. The nurse needs to deal with the emotional as well as the physical needs of these patients and help them adjust to their altered body image as much as possible. According to Gallagher (1972), patients with colostomies will inevitably have alterations of body image and that without professional medical and nursing assistance, psychosocially these patients can be affected to the point that they may become hermit-like in their existence. The result can be the same for CAPD patients as they also lose a body organ's function and the abdomen has a physical alteration.

Further research can determine if there is any significant difference in the alteration of body image in three groups of renal patients: CAPD, hemodialysis and chronic renal patients without any physical alterations.

#### Purpose

The purpose of this study was to determine if there is any difference in perception of body image between three groups of patients: CAPD, hemodialysis and chronic renal patients.

Specific questions to be addressed in this study were:

1. Is the perceived body image of patients on CAPD lower than hemodialysis patients?
2. Is the perceived body image of patients on hemodialysis lower than pre-therapeutic physical alteration patients and higher than that of CAPD?

#### Summary

In summary, by determining if there is any difference in alteration of body image in the three groups of renal patients, the information could be used in planning patients' total care and in helping them cope and adapt to the change. Nurses, through knowledge and intervention, can influence positively the outcome of the crisis of altered body image.

## CHAPTER 2

### THE CONCEPTUAL FRAMEWORK

This chapter includes the conceptual model. Each concept is described in accordance with review of the literature.

The conceptual framework depicted in Figure 1 compares the body image alteration of three groups of renal failure patients. Each area of the model is discussed in detail according to the literature reviewed.

#### Chronic Illness, Therapeutic Physical Alteration and Body Image Definitions

##### Chronic Illness

Chronic illness is a long continued state of being ill or sick requiring an extended period of medical attention (Leonard 1972; Blakiston 1972). Chronic illness is not limited to old age. Many infants born today will die of a chronic illness. It may or may not be manifestly disabling; disability results from impairment of the biologic, physiologic, or social efficiency of the person and prevents him from pursuing his normal or usual activities (Leonard 1972). Chronic illness can be from many causes; i.e., heart disease, renal disease, accidental injuries, etc. The chronic illness addressed in this study is renal failure disease.

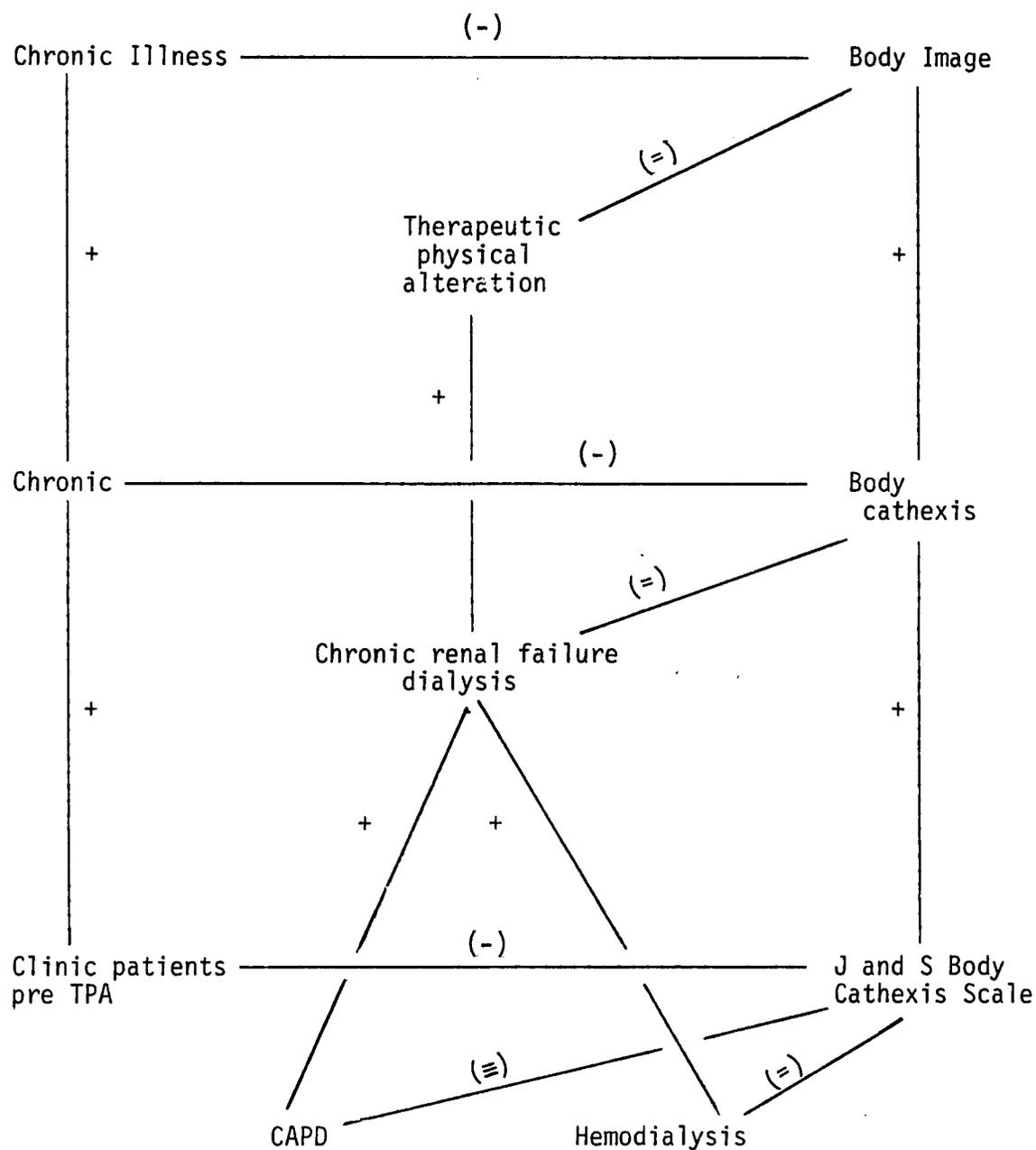


Figure 1. Conceptual Model: Comparison of body image in three groups of renal failure patients.

### Therapeutic Physical Alteration

For the purpose of this study, a therapeutic physical alteration means a physical change in the body for treatment of chronic renal disease by CAPD or hemodialysis. Although each treatment is different, they both require that the patient experience a surgical procedure for access to the body. CAPD requires a permanent catheter to be placed into the abdomen and hemodialysis requires a fistula or shunt placement in arms or legs, with the arms most frequently used (Sampson 1980 and Irwin 1979).

### Body Image

According to Roberts (1978) and Beeker (1970), both image is the image that an individual holds in the mind of his or her own body. Body image forms an integral part of an individual's conception of his personality, his worth, and his relations with other people. Body image is the mental idea a person has of his own body, its nature and its limit. Body image, or the mental picture of the body's appearance, changes constantly (Pille 1977). A patient's body image, his own unique way of perceiving his physical self, plays a key role in how he reacts to illness or surgery and whether he will leave the hospital emotionally intact or devastated (McCloskey 1976).

### Relationship of Chronic Illness to Body Image

Because body image is the mental idea a person has of his physical appearance, any change or disturbance of the body can alter one's body image. Leonard (1972) stated any alteration in the body,

externally or internally, leads to a disturbance of one's integrity and a threat to one's self. People express fears of death, incapacitation, pain, abandonment and disturbance of interpersonal relationships (Leonard 1972). The "body beautiful" is America's ideal and one takes until himself the attitudes of others toward his body and its parts because of attitudes, values, and behavior ascribed by the society. Leonard (1972) noted that a person with a chronic illness is a marked individual who sets himself apart from others or who is set apart from others by society. Lindensmith (1977) says that when a discrepancy develops between the way an individual has always pictured his body and the way he currently perceives it, the body image is altered and can produce anxiety and fears of being rejected and feelings of being "less than whole".

A significant amount of research has been done with body image in regard to chronic illness (Ford 1977; Leonard 1972; Fink and Shontz 1960). In the field of rehabilitation of the chronically ill, the study of body image has become especially important, since the process of rehabilitation requires that a patient relate his body to objects in the environment such as wheelchairs and crutches (Fink and Shontz 1960). Body image may extend beyond the confines of the body (Gerstmann 1958). Fink conducted research into the differences between physically healthy and chronically ill individuals in relation to body image functioning. The study demonstrated that chronic disease tends to have associated with it measurable disturbances in the body image (Fink and Shontz 1960).

#### Relationship of Physical Alteration to Body Image

Murray (1972) says there is not a change in a person physically, posturally or mentally that doesn't cause change in the body image. Even

as minor a change as a bruise and edema from a bump or injection from a needle can cause the person to focus on that part of the body and see it as not as whole and attractive as before. Alterations of body image associated with pregnancy, illness, trauma or surgery can cause a crisis for that person (Murray 1972). Leonard (1972) says any alteration in the body is a disturbance of one's integrity, a threat to one's self.

Research has been conducted with patients who have physical alterations due to surgery, weight gain and pregnancy indicating a negative effect on body image (Fink and Shontz 1960; Lindensmith 1977; Shane and Linn 1977; Young and Reeve 1980).

Studies have also been conducted in regard to emphasis on certain parts of the body being more meaningful and affecting body cathexis and body image (Plutchik 1971 and 1973; Ruggieri 1979; O'Brien 1980; Leonard 1972). Chronic renal patients on dialysis have a physical alteration as a result of provision of an access and the area involved depends on whether they are on hemodialysis or CAPD. Arms and legs are most frequently used for hemodialysis and the abdomen is used for CAPD. Galloway (1978) refers to the surgical inflation of the shunt and fistula as an outer and visible sign of an inner and (almost) spiritual relationship signifying unto all the joining of that patient to the dialysis program. With the shunt, the patient is left with tubing exposed at all times on the extremity which is usually the arm. The fistula is a bulging, pulsating, scarred area.

Since vessel access is a problem, many patients accumulate a series of scars on their arms and legs. Lindner (1974) says the shunt

lifespan is 9 to 10 months. Due to cosmetic concern, this can be very upsetting to young women. The ugly bulge of the fistula, the care-requiring plastic loop of the shunt and the scars of previous suture lines symbolize to the patient his bondage to the machine (Galloway 1978). The Tenckhoff catheter used for CAPD is partly exposed and connected to a long tubing and bag which the patient must wear at all times. This sometimes interferes with the type of clothing worn.

#### Chronic Renal Failure, Chronic Renal Failure Dialysis and Body Cathexis Definitions

Chronic Renal Failure. Chronic renal failure is characterized by a reduced glomerular filtration rate that has been decreasing for at least 3 months. The kidney is no longer able to maintain the integrity of the internal environment of the organism (Lancaster 1982 and Earle 1978). As the kidney function deteriorates, all body systems eventually become involved altering all normal body functions. Quality of life changes as every aspect of physical, social and psychological performance is touched by this disease (Lancaster 1982). A person with chronic renal failure can face a change in career goals, loss of financial independence, loss of emotional stability and a threat to his whole self image (Ford 1977). For this study, Chronic Renal Failure is an indicator of the Chronic Illness Construct.

Chronic Renal Failure Dialysis. Chronic renal failure dialysis is a treatment for sustaining life in patients with end stage renal disease and is an indicator of the construct Therapeutic Physical Alteration.

Dialysis is a process that substitutes for normally functioning kidneys by allowing the movement of solutes and water across a semipermeable membrane through diffusion, osmosis, and/or ultrafiltration (Foster 1978). There are basically two types of dialysis: CAPD and hemodialysis. Each requires the presence of three entities: blood, a semipermeable membrane and a dialysis bath.

CAPD has joined hemodialysis as a long-term treatment of chronic renal failure. Although peritoneal dialysis was performed before hemodialysis by Ganter in 1923, it has been within the past 10 to 15 years that CAPD has become a major treatment for end stage renal disease (Sampson 1980). With the advent of the permanent indwelling catheter by Tenckhoff and decrease in infections, more patients are choosing CAPD for treatment. It involves continuous dialysis 24 hours a day using 4 to 5 exchanges of dialysate fluid per day. With CAPD, the peritoneum serves as a dialysis membrane (Sorrels 1979). The average patient spends approximately 40 hours per week doing CAPD (Denniston 1980). The person can be ambulatory which gives him more independence and freedom from the machine than with hemodialysis. There are also fewer diet and fluid restrictions (Oreopoulos 1979 and Seven et al 1979). Each exchange takes approximately 35 to 40 minutes. It is a self-dialysis technique and compliance is very important (Moncrief 1979). This gives the patient a feeling of independence and is less stressful on family members.

The Tenckhoff catheter is placed 3 to 5 centimeters below the umbilicus by surgical procedures. A tubing is attached between the catheter of 2 liters of dialysate that is instilled by gravity then

drained and replaced 4 to 5 times per 24 hours. After the 2 liters of dialysate are instilled, the bag and tubing are rolled up and placed in a pouch that can fit inside a shirt or blouse or be strapped to the waist or thigh (Sorrels 1979). Peritonitis is still one of the most common complications requiring frequent hospitalization for some patients.

Many studies have been done on CAPD regarding its advantages and disadvantages such as effectiveness, complications and cost (Moncrief 1979; Rubin, et al 1980; Ford 1977; Foster 1978; Sorrels 1979). These studies point out that there are psychological stresses with CAPD as well as hemodialysis. However, no research has been found to determine if there is any alteration to body image from the increase in abdominal girth from the 2 liters of dialysate and from the challenge to the patient of concealing the bag and tubing under clothing. Whitaker (1983) reports in her study of social adjustments of CAPD patients that women, particularly, expressed concern about their mate seeing their naked body because of the Tenckhoff catheter.

Hemodialysis is done by circulating the patient's blood from an artery through a dialysis machine, and back into the patient via a vein (Ford 1977). The artificial kidney eliminates waste products from the blood by filtration and diffusion across a semipermeable membrane. This treatment must be done three times every week for a period of 3 to 7 hours each time depending on the patient's body size and adherence to diet and fluid restriction. A vascular access is necessary for this treatment. Usually this access is a shunt or fistula, but fistulas are now more common.

When on hemodialysis, patients experience many physical ailments, loss of libido and self esteem, fear, anger and dependence. They live a very restricted life style and are forever dependent on a machine to sustain that life. The patient sometimes wonders if it is worth it all and even thinks of death (Galloway 1978). Many researchers are looking at the impact of hemodialysis on both patients and families (Beard 1978; Abram 1969; Galloway 1978; Ford 1977). Bear (1978) says that not all families involved in hemodialysis disintegrate, but all are involved in stressful situations that can alter their relationships and lifestyles.

Abram (1969) presented findings from a study on the changes in body image associated with dependence on an artificial organ. Studies on psychological aspects of patients' acceptance of artificial organs, particularly the artificial kidney, at least comment on disturbance of body image. Some of Abram's subjects expressed hatred for the machine; that they felt like zombies; were not entirely human; and, instead of dying quickly in two weeks from uremia, without dialysis, were dying slowly day by day over a period of five years. No study was found comparing the difference in the alteration of body image between CAPD and hemodialysis patients.

In addition to the social effects, the economic effects of chronic renal failure are enormous and even those patients in the middle income bracket find it difficult to maintain their independence (Campbell 1978). Whether a patient chooses CAPD or hemodialysis, the costs of medical care are enormous. Dialysis alone costs \$8,500 to \$10,000 per patient year for CAPD and \$25,000 per year for hemodialysis (Sorrels 1979).

Body Cathexis. Body cathexis (BC), the indicator of the Body Image construct, means the degree of feeling of satisfaction or dissatisfaction with the various parts or processes of the body (Secord and Jourard 1953). It measures the level of body self acceptance of the individual by asking him to evaluate various parts of his body (Ruggieri et al 1979).

Studies have been done on BC by asking patients to indicate on a scale the strength and direction of feeling which he has about each of the various parts or functions of his body. The BC-SC Scale (Body Cathexis-Self Cathexis) was used in a study by Secord and Jourard (1953) which showed that the subjects valuation of the body and self tend to be commensurate.

Dasch (1978) conducted a study with 30 patients to investigate the relationship among development and performance of doing skills, body cathexis, and levels of control orientation. Pearson product-moment correlations yielded significant, though modest ( $r=.47$ ) positive relations between these measures of body cathexis and performance, ( $p < .01$ ).

Clance, et al (1979) studied a group of psychology students to examine the effects of a psychology of adjustment class on body-acceptance and self-acceptance. An introductory psychology class served as a control group. Subjects were pre and post tested with the body-cathexis and self-cathexis scales. Two by two analyses of covariance indicated that the adjustment group showed a larger gain on both scales than the control.

A study by Rosen and Ross (1968) using a body parts scale agreed with findings by Secord and Jourard that satisfaction with body image and satisfaction with self-concept are positively related. Mahoney and Finch (1976) stated the investigation of body-cathexis and its correlates has been the focus of considerable research for the past two decades.

### Operational Measures

#### Clinic patients pre TPA

Clinic patients pre-therapeutic physical alteration referred to those patients being followed in the renal clinic for their chronic renal disease, but who had not required a physical alteration for treatment with dialysis. They had been diagnosed as having renal failure for at least 3 months.

#### Hemodialysis patients

Hemodialysis patients were those who had chronic renal failure and were being treated by hemodialysis, therefore they had a physical alteration to provide access by a shunt or fistula. Shunts and fistulas are frequently located in arms and legs and some patients may have scarring from previous accesses.

#### CAPD patients

Continuous ambulatory peritoneal dialysis patients were those who were being treated for their chronic renal failure through a catheter placed in the abdomen. Those patients selected had not been on hemodialysis prior to CAPD, therefore didn't have multiple scarring on arms and legs from shunts and fistulas.

### J and S Body Cathexis Scale

The Jourard and Second Body Cathexis Scale (1953) listed 46 body parts and functions. Each subject was asked to indicate on a scale 1 to 5, the strength and direction of feeling which he had about each of the various parts or functions of his body.

#### Summary

In summary, this study examined the body image in three groups of renal patients: CAPD, hemodialysis and predialysis. The measurement instrument was the J and S Body Cathexis Scale which allowed each subject to express how he felt about his body.

## CHAPTER 3

### METHODOLOGY

This chapter describes the methods used to achieve the purpose of the study. The design, setting, sample, protection of human rights, instrument, data collection procedure and analysis plan are discussed.

#### Design

A descriptive design was selected to examine the difference in body image of three groups of renal patients: CAPD, hemodialysis and renal failure patients followed in the clinic, who had not acquired a physical alteration for dialysis. The three groups of patients completed the J and S Body Cathexis Scale to determine if there was any difference in the amount of body image alteration in each group.

#### The Setting

The study took place in a southwestern Veterans Administration Medical Center. The patients were from the dialysis units and the renal clinic of the above mentioned facility.

#### The Sample

The population consisted of 10 subjects conveniently selected from three groups according to the following criteria:

Group I -- patients with chronic renal failure, but no therapeutic physical access for dialysis. These patients were diagnosed for at least 3 months.

Group II - patients on hemodialysis at least 3 months.

Group III - patients on CAPD at least 3 months who had not had previous hemodialysis.

#### Protection of Human Rights

The plan for the study was approved by the Human Subjects Committee at the University of Arizona (Appendix A) and the Department of Staff Development and Research at the clinical facility where the data was collected. Explanation was given to each subject regarding the purpose of the study and his/her right to withdraw at any point without any consequence. The confidentiality of the information was assured to the subject by assigning each subject a code number. The patient disclaimer is shown in Appendix B.

#### The Instrument

To measure the alteration of body image in 3 groups of renal patients, each person in each of the groups completed the J and S Body Cathexis Scale which was a Likert-type scale and consisted of 48 body parts and functions (Appendix C). Two items, clothing and abdomen, were added to the original scale in order to measure the two items which could affect body image in CAPD and hemodialysis patients. Each item was followed by the numbers 1 through 5. The person indicated on the scale the strength and direction of feeling which he had about each of the various parts or functions of his body. One indicated the strong negative feeling and 5 indicated the strong positive feeling.

The body cathexis rating has been used extensively according to the literature. Secord and Jourard (1953) found the reliability to be .81. A relationship between low body cathexis and insecurity and anxiety

based on correlations with the Homonym test of body cathexis (H test) and the Maslow test were also demonstrated (Secord and Jourard (1953). Tests for concurrent validity demonstrated significant correlations ( $r=-.41$ ;  $p < .01$ ) for 43 females (Winerman 1980).

Each subject was also asked to complete a demographic questionnaire shown in Appendix D. The questionnaire consisted of age, sex, race, religion, marital status, occupation, educational level, length of time of renal failure, length of time on dialysis and type of dialysis.

#### Data Collection

Data were collected as patients visited the Veterans Administration medical center dialysis units and renal clinic. There were 30 subjects; 10 clinic patients pre-therapeutic alteration for dialysis; 10 hemodialysis; and 10 CAPD patients. As patients arrived for clinic visits, they were asked to volunteer to become a study subject. If they agreed to participate, they were given a packet including the J and S Body Cathexis Scale and demographic questionnaire. Each subject was provided with both verbal and written instructions for completing the questionnaire. They were informed that each questionnaire was number coded for confidentiality.

#### Data Analysis Plan

The data were submitted to a one-way analysis variance with multiple comparisons using Tukey's procedure to determine any significant differences between the three groups of renal patients on body image. Descriptive statistics were used to compare groups by items on the Body Cathexis Scale.

### Summary

In summary, the study evaluated the body image in three groups of renal failure patients. The measurement instrument used was the J and S Body Cathexis Scale. This information was statistically analyzed to determine if there was any difference in alteration of body image between the three groups studied.

## CHAPTER 4

### PRESENTATION OF THE DATA

This study asked the questions: Is the perceived body image of the patients on CAPD lower than hemodialysis patients? Is the perceived body image of patients on hemodialysis lower than pre-therapeutic physical alteration patients and higher than that of CAPD patients? The comparisons were made on the results from a 48 item J and S Body Cathexis Scale. The original scale consisted of 46 body parts and functions. The items, clothing and abdomen, were added to the scale for this study. In this chapter a profile of the subjects, the method of data analysis and analysis of scores are presented.

#### Profile of the Subjects

The total sample consisted of 30 males with chronic renal failure ranging in age from 46 to 81 years with a mean age of 58.89, who received their health care from a Veterans Administration Medical Center. There were three groups of patients (pre-therapeutic alteration, hemodialysis and CAPD) with 10 subjects in each group.

Table 1 includes a comparison of age, length of disease and dialysis in years for subject groups. The chronic renal patients not on dialysis had a mean age of 60.67 years, hemodialysis 60.60 years and CAPD 55.60 years. The pre-therapeutic alteration group had chronic renal disease from 1 to 38 years with a mean of 11.30 years. The hemodialysis

Table 1. Comparison of age, length of renal disease and dialysis in years for subject groups.

	Pre-thera- peutic	Hemodialysis	CAPD	Total Sample
<b>Age</b>				
Mean	60.67	60.60	55.60	58.90
St. Dev.	10.44	7.14	7.50	8.46
<b>Renal Disease</b>				
Mean	11.30	11.25	5.50	9.21
St. Dev.	11.21	12.99	6.02	10.28
<b>Dialysis</b>				
Mean	0	4.33	2.50	2.21
St. Dev.	0	4.03	2.46	3.13
Sample Size	10	10	10	30

group had renal disease from 1 to 35 years with a mean of 11.25 years. The CAPD patients had renal disease from 1 to 18 years with a mean score of 5.50 years. The hemodialysis subjects had been on dialysis from 1 to 11 years with a mean of 4.33 years. The CAPD subjects had been on dialysis from 1 to 9 years with a mean of 2.50 years.

The subjects ethnic status is shown in Table 2. There were 26 caucasians and 4 hispanics for the entire sample of 30 subjects.

Marital status included 20 subjects who were married, 8 previously married and 2 single. A breakdown of marital status is given in Table 3.

Nineteen subjects were of Protestant religion, 9 Catholics, and 2 reported having no religion. These data are shown in Table 4.

As shown in Table 5, the years of formal education for the 30 subjects ranged from grade school to graduate school with only 3 below high school graduate. Out of the 29 reporting their occupational status, there were 3 professionals, 1 technician, 6 laborers, 1 unemployed and 18 retired. This information on occupation is reflected in Table 6.

#### The Method of Data Analysis

Following data collection a one-way analysis variance with multiple comparisons using Tukey's procedure was performed to answer the 2 research questions of this study. The questions are: Is the perceived body image of patients on CAPD lower than hemodialysis patients? Is the perceived body image of patients on hemodialysis lower than pre-therapeutic physical alteration patients and higher than that of CAPD? The lower the score, the lower the self image is perceived.

Table 2. Comparison of ethnic status for subject groups by frequency.

	Pre-therapeutic Alteration		Hemodialysis		CAPD		Total	
	f	%	f	%	f	%	f	%
Caucasian	9	90	7	70	10	100	26	87
Hispanic	1	10	3	30	0	0	4	13
Total	10	100	10	100	10	100	30	100

Table 3. Comparison of marital status for subject groups by frequency.

	Pre-therapeutic Alteration		Hemodialysis		CAPD		Total	
	f	%	f	%	f	%	f	%
Married	10	100	6	60	4	40	20	67
Previously Married	0	0	2	20	6	60	8	26
Single	0	0	2	20	0	0	2	7
Total	10	100	10	100	10	100	30	100

Table 4. Comparison of religion for subject groups by frequency.

	Pre-therapeutic Alteration		Hemodialysis		CAPD		Total	
	f	%	f	%	f	%	f	%
Protestant	6	60	5	50	8	80	19	63
Catholic	3	30	5	50	1	10	9	30
None	1	10	0	0	1	10	2	07
Total	10	100	10	100	10	100	30	100

Table 5. Comparison of educational level of subject groups by frequency.

	Pre-therapeutic Alteration		Hemodialysis		CAPD		Total	
	f	%	f	%	f	%	f	%
Grade School	0	0	1	10	2	20	3	10
High School	3	30	5	50	5	50	13	44
College	5	50	4	40	2	20	11	37
Apprentice	1	10	0	0	0	0	1	3
Graduate School	0	0	0	0	1	10	1	3
Missing	1	10	0	0	0	0	1	3
Total	10	100	10	100	10	100	30	100

Table 6. Comparison of occupation of subject groups by frequency.

	Pre-therapeutic Alteration		Hemodialysis		CAPD		Total	
	f	%	f	%	f	%	f	%
Professional	0	0	2	20	1	10	3	10
Technical/ Vocational	1	10	0	0	0	0	1	3
Laborer	2	20	2	20	2	20	6	20
Unemployed	0	0	1	10	0	0	1	3
Retired	6	60	5	50	7	70	18	61
Missing	1	10	0	0	0	0	1	3
Total	10	100	10	100	10	100	30	100

### Analysis of Total Body Cathexis Scale Scores

The range, mean and standard deviation for total body cathexis scores for the 3 groups of renal failure patients are presented in Table 7. The mean score of pre-therapeutic alteration patients was 168.4, hemodialysis 156.9 and CAPD patients was 137.8.

A one-way analysis variance was used to compare the 3 groups. The ANOVA Table is shown in Table 8. There was a significant difference ( $p=.04$ ) between the 3 groups with CAPD patients having the lowest mean score as was predicted.

Tukey's procedure was used to make multiple comparisons between the 3 group means in order to determine if there was statistical significance between group differences. Table 9 gives the results of this testing. Only the difference between the means of the pre-therapeutic alteration group and the CAPD group was statistically significant although the direction of mean scores was as predicted. Thus, although there was a statistically significant difference among groups, this difference was primarily due to the difference in perception of body image between pre-therapeutic alteration patients and those patients on CAPD. Based on statistical testing, the perceived body image of patients on CAPD cannot be considered lower than hemodialysis patients. Similarly, the perceived body image of hemodialysis patients is not lower than pre-therapeutic physical alteration patients and higher than CAPD patients. Higher body image is perceived by pre-therapeutic alteration patients than by CAPD patients.

Table 7. Total Body Cathexis Scale scores, means and standard deviations for all subjects by groups.

	Pre-therapeutic Alteration	Hemodialysis	CAPD
Range	149-198	117-188	98-186
Mean	168.4	156.9	137.8
Standard Deviation	16.7	22.9	33.8

Table 8. Comparison of the three groups by one-way analysis variance.

Source	D.F.	Sum of Squares	Mean Squares	F. Ratio	F. Prob.
Between Groups	2	4778.07	2389.03	3.67	.04
Within Groups	27	17574.90	650.92		
Total	29	22352.97			

Table 9. Comparison of Group Means using Tukey's procedure

Means	Hemodialysis (156.9)	CAPD (137.8)
Pre-therapeutic (168.4)	1.425	3.793*
Hemodialysis (156.9)		2.367

\* Significant at  $p < .05$

### Analysis of Individual Item Scores Among the Subject Groups

Of the 48 items on the questionnaire, CAPD subjects rated themselves lower on 47 items. Hemodialysis subjects scored lower on 7 items and pre-therapeutic alteration subjects scored lower on 2 items. The total scores for all 48 items by groups are listed in Appendix E.

One-way analysis of variance was used to determine if there were significant differences among the 3 groups on individual items. Among the 3 groups there was a significant difference at  $.05 < p \leq .10$  on 5 items which were: "waist", "back", "digestion", "knees", and "sex". There was a significant difference at  $p \leq .05$  in 10 items. These 10 items were: "shape of head", "profile", "height", "skin texture", "lips", "forehead", "voice", "posture", "back view of head" and "clothing". CAPD subjects scored lower on all these items except for height, skin texture and clothing, which were scored lower by hemodialysis subjects. Pre-therapeutic subjects did not score lower on any of these items. It was expected that CAPD subjects would score lower on "clothing" than hemodialysis subjects. CAPD subjects scored lower on "abdomen", as expected, but there was not a significant difference among the groups. A comparison of items with significant differences on the Body Cathexis Scale is shown in Table 10.

### Summary

The findings of this study indicated that there was a significant difference among the 3 groups of renal patients on the Body Cathexis Scale. The total mean scores were in the direction predicted but there

Table 10. Comparison of means by items on Body Cathexis Scale for subject groups.

Item	Pre-therapeutic Alteration	Hemodialysis	CAPD
11 Waist*			
Mean	2.90	3.30	2.10
St. Dev.	1.29	.95	1.20
13 Back*			
Mean	3.50	3.11	2.30
St. Dev.	.97	1.27	1.16
19 Shape of Head**			
Mean	4.30	3.50	3.10
St. Dev.	.48	.53	1.10
21 Profile**			
Mean	3.50	4.00	2.88
St. Dev.	1.80	.67	.93
22 Height**			
Mean	4.00	3.20	2.80
St. Dev.	.82	1.03	.92
28 Digestion*			
Mean	3.70	3.90	2.50
St. Dev.	1.25	1.29	1.58
30 Skin Texture**			
Mean	4.20	3.10	3.20
St. Dev.	.42	1.20	1.14
31 Lips**			
Mean	4.20	3.40	3.10
St. Dev.	.42	1.07	.99
34 Forehead**			
Mean	4.10	3.67	3.20
St. Dev.	.32	.50	.63
37 Voice**			
Mean	3.80	3.90	2.70
St. Dev.	.79	1.10	1.06

Table 10. Comparison of means by items on Body Cathexis Scale for subject groups. -- Continued

Item	Pre-therapeutic Alteration	Hemodialysis	CAPD
40 Knees*			
Mean	3.89	3.30	2.90
St. Dev.	.78	.95	.88
41 Posture**			
Mean	4.00	3.50	2.60
St. Dev.	.47	.53	1.26
44 Sex*			
Mean	4.12	4.12	3.33
St. Dev.	.35	.64	1.12
45 Back View of Head**			
Mean	4.20	3.44	3.33
St. Dev.	.42	.88	.50
47 Clothing**			
Mean	4.20	3.22	3.50
St. Dev.	.42	.97	.85

\* Significant difference  $.05 < p \leq .10$

\*\* Significant difference  $p \leq .05$

was only one statistically significant difference between groups. The perceived body image of CAPD patients was significantly lower than pre-therapeutic alteration patients. There was no statistically significant difference between CAPD patients and hemodialysis patients or between hemodialysis patients and pre-therapeutic alteration patients.

On the individual scale items, CAPD patients were lower on 37 of 48 items. Analysis of Variance on each of the 48 scale items revealed statistically significant differences among groups on 10 items at  $p \leq .05$  and five items at  $.05 < p \leq .10$ .

## CHAPTER 5

### INTERPRETATIONS AND IMPLICATIONS

This chapter discusses the relationship of the findings to the conceptual framework and the implication of these findings. The limitations of this study and recommendations for further research are also presented.

#### Relationship of Findings to the Conceptual Framework

The findings of this study revealed that there is a difference in perception of body image among the three groups of renal patients: Pre-therapeutic alteration, Hemodialysis and CAPD. The CAPD patients scored lower than hemodialysis and hemodialysis subjects scored lower than pre-therapeutic subjects, but higher than CAPD subjects. However, these differences were not statistically significant. Since researchers suggest that chronic illness and physical alteration affect body image, (Leonard 1972; Gallagher 1972) it was anticipated that both hemodialysis and CAPD patients would score lower than pre-therapeutic alteration patients. Statistically, CAPD patients were significantly different from pre-therapeutic alteration patients.

McCloskey (1976) reported that all parts of the body, clothing, etc. are part of the body image with each part assuming varying degrees of importance to different people. With CAPD patients wearing a permanent catheter in the abdomen with an attached tubing and bag and their waistline increasing, it was anticipated they would score lower on

waist, abdomen and clothing. In this study CAPD patients scored lower on waist and abdomen, but hemodialysis patients scored lower on clothing. If this study had included female CAPD patients the item "clothing" might have been scored lower for the CAPD groups. Perhaps hemodialysis patients scored lower on "clothing" because they feel the need to wear long sleeve clothing to cover arms with fistulas and scars.

#### Implications for Nursing

Our society places emphasis on physical appearance. McCloskey (1976) says body image perception can affect how a person reacts to illness or surgery and compliance can be affected. Considerable research has been done on body image and its effect on chronically ill patients. Nurses need to be aware of an individual's perception of body image and utilize this knowledge in planning a patients' total care and promoting his health. With better understanding of how the 3 groups of renal patients perceive body image, this information can be included in planning the care of these patients and help them adapt to body image changes. Although this was a small sample and there was only 1 statistically significant difference among the 3 groups of renal patients, the CAPD patients did score lower on the Body Cathexis Scale total raw scores.

With 55,000 Americans affected by chronic renal failure (Allen 1981), nurses need to be aware of renal patients' perception of body image. Since the findings of this study indicated there is a difference in body image perception between pre-therapeutic alteration patients and CAPD patients, body image should be included in planning the care of

CAPD patients. An assessment of body image should be made and implementation of a plan to help the patient adjust to any changes.

#### Limitations of the Study

The following limitations are noted:

1. Subjects consisted only of males eligible for Veteran benefits.
2. The sample size, n=10 in each group, was small.
3. Convenience sampling was used for subject selection.
4. All subjects were older than 45 years of age.

#### Recommendations for Further Study

These following recommendations are made from this study:

1. Replicate the study with a wider age range of subjects.
2. Replicate the study using both male and female patients.
3. Replicate the study using a larger sample randomly selected.
4. Conduct an investigation to include a 4th group, transplant patients.

#### Summary

This was a descriptive study to determine if there was any difference in perception of body image in 3 groups of chronic renal patients: pre-therapeutic alteration, hemodialysis and CAPD. The J and S Body Cathexis Scale and demographic data questionnaires were voluntarily completed by each of the 3 (n=10) groups of veteran male patients. The lower score indicated the lower perception of body image. CAPD patients scored lower than hemodialysis and hemodialysis scored

lower than pre-therapeutic alteration patients, but higher than CAPD patients on the total raw scores. There was a significant difference of  $p < .05$  between the pre-therapeutic alteration and CAPD patients, but no significant difference between pre-therapeutic alteration and hemodialysis and between hemodialysis and CAPD patients. The conceptual framework was supported that physical alteration can affect body image. The conceptual framework that CAPD subjects would score significantly lower than hemodialysis patients was not statistically supported.

APPENDIX A

HUMAN SUBJECTS PROJECT APPROVAL

## HUMAN SUBJECTS PROJECT APPROVAL

THE UNIVERSITY OF ARIZONA COLLEGE OF NURSING

## MEMORANDUM

TO: Violet Bernice Stevens  
8049 E. Almond Place  
Tucson, Az 85730

FROM: Ada Sue Hinshaw, RN, Ph.D.      Katherine J. Young, RN, PhD  
Director of Research                      Chairman Research Committee

DATE: January 24, 1984

RE: Human Subjects Review: Comparison of Body Image in Three  
Groups of Renal Disease Patients

Your project has been reviewed and approved as exempt from University review by the College of Nursing Ethical Review Sub-Committee of the Research Committee and the Director of Research. A consent form with subject signature is not required for projects exempt from full University review. Please use only a disclaimer format for subjects to read before giving their oral consent to the research. The Human Subjects Project Approval Form is filed in the office of the Director of Research if you need access to it.

We wish you a valuable and stimulating experience with your research.

ASH/fp

APPENDIX B

DISCLAIMER/INSTRUCTIONS

DISCLAIMER/INSTRUCTIONS

COMPARISON OF BODY IMAGE  
IN THREE GROUPS OF RENAL DISEASE PATIENTS

by

Violet Bernice Stevens

I am conducting a study comparing the body image of 3 groups of renal patients; CAPD, hemodialysis and patients with chronic renal failure not under dialysis treatment.

You will be asked to voluntarily fill out 2 forms. One form asks for information about you and the second form is a questionnaire which asks you to pick how you feel about body parts and functions. It will take you about 20 to 30 minutes to complete the forms. The information that I receive from you will be coded and analyzed by a computer so that your name will not appear on any of the information.

There are no known medical, social, or psychological risks involved in the study. There will be no cost to you.

The possible benefit of the study is that the information obtained may help nurses and doctors to better understand how renal patients feel about their body functions. With increased understanding, nurses and doctors may be able to plan care to better meet your needs.

If you decide not to participate in this study, it will not change your relationship with any nurse or doctor or affect your quality of treatment or care. You are free to ask any questions you may have

about the study at any time and you may withdraw from the study at any time without affecting your care. Your completion of the attached questionnaire signifies your voluntary participation in the study.

APPENDIX C

THE MEASUREMENT TOOL  
BODY CATHEXIS SCALE

Subject No. \_\_\_\_\_

Group No. \_\_\_\_\_

THE MEASUREMENT TOOL  
BODY CATHEXIS SCALE

Instruction

Listed are a number of things characteristic of yourself or related to you. You are asked to indicate which things you are satisfied with exactly as they are, which things you worry about and would like to change if it were possible, and which things you have no feelings about one way or the other.

Consider each item listed below and encircle the number which best represents your feelings according to the following scale:

1. Have strong feelings and wish change could somehow be made.
2. Don't like, but can put up with.
3. Am satisfied.
4. Consider myself fortunate.

		Wish to change		No feeling		Fortunate
1.	Hair	1	2	3	4	5
2.	Facial complexion	1	2	3	4	5
3.	Appetite	1	2	3	4	5
4.	Hands	1	2	3	4	5
5.	Distribution of hair over body	1	2	3	4	5
6.	Nose	1	2	3	4	5
7.	Fingers	1	2	3	4	5
8.	Elimination	1	2	3	4	5
9.	Wrists	1	2	3	4	5

THE MEASUREMENT TOOL  
BODY CATHEXIS SCALE

	Wish to change		No feeling	Fortunate	
10. Breathing	1	2	3	4	5
11. Waist	1	2	3	4	5
12. Energy Level	1	2	3	4	5
13. Back	1	2	3	4	5
14. Ears	1	2	3	4	5
15. Chin	1	2	3	4	5
16. Exercise	1	2	3	4	5
17. Ankles	1	2	3	4	5
18. Neck	1	2	3	4	5
19. Shape of Head	1	2	3	4	5
20. Body Build	1	2	3	4	5
21. Profile	1	2	3	4	5
22. Height	1	2	3	4	5
23. Age	1	2	3	4	5
24. Width of Shoulders	1	2	3	4	5
25. Arms	1	2	3	4	5
26. Chest	1	2	3	4	5
27. Eyes	1	2	3	4	5
28. Digestion	1	2	3	4	5
29. Hips	1	2	3	4	5
30. Skin Texture	1	2	3	4	5
31. Lips	1	2	3	4	5

THE MEASUREMENT TOOL  
BODY CATHEXIS SCALE

	Wish to change		No feeling		Fortunate
32. Legs	1	2	3	4	5
33. Teeth	1	2	3	4	5
34. Forehead	1	2	3	4	5
35. Feet	1	2	3	4	5
36. Sleep	1	2	3	4	5
37. Voice	1	2	3	4	5
38. Health	1	2	3	4	5
39. Sex Activities	1	2	3	4	5
40. Knees	1	2	3	4	5
41. Posture	1	2	3	4	5
42. Face	1	2	3	4	5
43. Weight	1	2	3	4	5
44. Sex (male/female)	1	2	3	4	5
45. Back View of Head	1	2	3	4	5
46. Trunk	1	2	3	4	5
47. Clothing	1	2	3	4	5
48. Abdomen	1	2	3	4	5

APPENDIX D

DEMOGRAPHIC DATA TOOL

## DEMOGRAPHIC DATA TOOL

Subject No. \_\_\_\_\_

Group No. \_\_\_\_\_

Age \_\_\_\_\_

Sex \_\_\_\_\_

Race \_\_\_\_\_

Religion \_\_\_\_\_

Marital Status \_\_\_\_\_

Occupation \_\_\_\_\_

Education Level \_\_\_\_\_

Length of Time of Renal Disease \_\_\_\_\_

Length of Time on Dialysis \_\_\_\_\_

Type of Dialysis (CAPD or hemodialysis) \_\_\_\_\_

APPENDIX E

BODY CATHEXIS TOTAL SCORES BY ITEMS AND GROUPS

## BODY CATHEXIS TOTAL SCORES BY ITEMS AND GROUPS

Item	Group Scores		
	Pre-therapeutic Alteration	Hemo- dialysis	CAPD
1. Hair	35	34	35
2. Facial Complexion	37	32	36
3. Appetite	34	43	29
4. Hands	38	36	34
5. Distribution of Hair over Body	38	32	34
6. Nose	39	33	29
7. Fingers	38	33	31
8. Elimination	36	25	19
9. Wrists	37	39	32
10. Breathing	36	36	29
11. Waist	29	33	21
12. Energy Level	21	20	21
13. Back	35	28	23
14. Ears	31	33	28
15. Chin	41	36	35
16. Exercise	24	26	20
17. Ankles	36	30	29
18. Neck	38	33	33
19. Shape of Head	43	35	31
20. Body Build	32	39	30

## BODY CATHEXIS TOTAL SCORES BY ITEMS AND GROUPS

Item	Group Scores		
	Pre-therapeutic Alteration	Hemo- dialysis	CAPD
21. Profile	35	40	26
22. Height	40	32	28
23. Age	35	29	30
24. Width of Shoulders	42	33	35
25. Arms	40	33	33
26. Chest	40	36	32
27. Eyes	31	30	23
28. Digestion	37	39	25
29. Hips	32	37	30
30. Skin Texture	42	31	32
31. Lips	42	34	31
32. Legs	28	33	21
33. Teeth	33	25	31
34. Forehead	41	33	32
35. Feet	29	34	24
36. Sleep	30	38	24
37. Voice	38	39	27
38. Health	22	28	25
39. Sex Activities	29	25	21
40. Knees	35	33	29
41. Posture	40	35	26

## BODY CATHEXIS TOTAL SCORES BY ITEMS AND GROUPS

Item	Group Scores		
	Pre-therapeutic Alteration	Hemo- dialysis	CAPD
42. Face	39	24	31
43. Weight	27	29	29
44. Sex (Male/Female)	33	33	30
45. Back View of Head	46	31	30
46. Trunk	32	32	33
47. Clothing	42	29	35
48. Abdomen	30	28	26

## LIST OF REFERENCES

- Abram, Harry S. "The Psychiatrist, the Treatment of Chronic Renal Failure, and the Prolongation of Life: II," American Journal of Psychiatry, 126:157-167, August, 1969.
- Allen, David J. News from Congressman Philip M. Crane, 1981.
- Beard, Mildred P. "The Impact of Hemodialysis and Transplantation on the Family," Critical Care Quarterly, 2:87-91, September, 1978.
- Beeken, Janice E. "Body Image Changes in Plegia," Journal of Neurosurgical Nurses, 10:20-23, 1970.
- Bille, Donald A. "The Role of Body Image in Patient Compliance and Education," Heart and Lung, 6:143-148, January-February, 1977.
- Blakiston's Gould Medical Dictionary, 3rd edition. McGraw-Hill, Inc., San Francisco, 1972.
- Campbell, James D., and Campbell, Anne R. "The Social and Economic Costs of End-Stage Renal Disease," The New England Journal of Medicine, 299:386-392, July-September, 1978.
- Clance, Pauline Rose, Matthews, Thomas V., Jr., and Joesting, Joan. Perceptual and Motor Skills, 48:221-222, 1979.
- Craft, Carol A. "Body Image and Obesity," Nursing Clinics of North America, 7:677-685, December, 1972.
- Dasch, Carol Smith. "Relation of Dance Skills to Body Cathexis and Locus of Control Orientation," Perceptual and Motor Skills, 46:465-466, 1978.
- Denniston, Donna J. and Burns, Kathryn T. "Home Peritoneal Dialysis," American Journal of Nursing, 2022-2025, November, 1980.
- Earle, David P. "Management of Pre-End-Stage Chronic Renal Failure," Cardiovascular Medicine, 3:1257-1272, December, 1978.
- Fink, Stephen L. and Shontz, Franklin C. "Body-Image Disturbances in Chronically Ill Individuals," Journal of Nervous and Mental Disorders, 131:234-240, 1960.
- Ford, Lynda. "The Effects of Chronic Renal Failure and Long-Term Dialysis," The Canadian Nurse, 73:19-24, March, 1977.

- Foster, Joan Kerwin. "Dialysis: A Treatment Modality in Renal Failure," Critical Care Quarterly, 2:25-39, September, 1978.
- Gallagher, Ann M., "Body Image Changes in the Patient With A Colostomy," Nursing Clinics of North America, 7:669-676, December, 1972.
- Galloway, Albert L. "Emotional Aspects of Dialysis and Transplantation," Critical Care Quarterly, 2:87-91, September, 1978.
- Gerstmann, Josef. "Psychological and Phenomenological Aspects of Disorders of the Body Image," The Journal of Nervous and Mental Disease, 126:499-512, June, 1958.
- Irwin, Betty C. "Hemodialysis Means Vascular Access...and the Right Kind of Nursing Care," Nursing 79, 49-53, October, 1979.
- Lancaster, Larry E. "Home Study Program Renal Failure: Pathophysiology, Assessment, and Intervention," Critical Care Nurse, 40-55, January/February, 1982.
- Leonard, Beverly J. "Body Image Changes in Chronic Illness," Nursing Clinics of North America, 7:687-695, December, 1972.
- Lindensmith, Sandra. "Body Image and the Crisis of Enterostomy," The Canadian Nurse, 24-77, November, 1977.
- Lindner, Armando and Curtis, Kingsbury. "Morbidity and Mortality Associated with Long-Term Hemodialysis," Hospital Practice, 145-150, November, 1974.
- Mahoney, E.R., and Finch, M.D.C. "The Dimensionality of Body-Cathexis," The Journal of Psychology, 92:277-279, 1976.
- McCloskey, Joanne Comi. "How to Make the Most of Body Image Theory in Nursing Practice," Nursing 76, 68-72, May, 1976.
- Moncrief, Jack W., Popovich, Robert P. "Continuous Ambulatory Peritoneal Dialysis," The Kidney, 12:9-11, May, 1979.
- Murray, Ruth L. E. "Principles of Nursing Intervention for the Adult with Body Image Changes," Nursing Clinics of North America, 7:697-707, December, 1972.
- O'Brien, Jayne. "Mirror, Mirror, Why Me?," Nursing Mirror, 36-37, April, 1980.
- Oreopoulos, Dimitrios G. "The Coming of Age of Continuous Ambulatory Peritoneal Dialysis," Dialysis and Transplantation, 8:460-462, May, 1979.

- Plutchik, Robert, Weiner, M. Bakur, and Conte, Hope. "Studies of Body Image. I: Body Worries and Body Discomforts," Journal of Gerontology, 26:344-350, 1971.
- Plutchik, Robert, Conte, Hope, and Weiner, M. Bakur. "Studies of Body Image. II: Dollar Values of Body Parts," Journal of Gerontology, 28:89-91, 1973.
- Riddle, Irene. "Nursing Intervention to Promote Body Image Integrity in Children," Nursing Clinics of North America, 7:651-661, December, 1972.
- Roberts, Sharon L. Behavioral Concepts and Nursing Throughout the Life Span, New Jersey, Prentice-Hall, Inc., 266-293, 1978.
- Rosen, Gerald M. and Ross, Alan O. "Relationship of Body Image to Self-Concept," Journal of Consulting and Clinical Psychology, 32:100, 1968.
- Rubin, Jack, Rogers, Wallace A., Taylor, Henry M., Everett, E. Dale, Prowant, Barbara, F., Fauto, Leonore V., Nolph, Karl D. "Peritonitis During Continuous Ambulatory Dialysis," Annals of Internal Medicine, 92:555-563, 1979.
- Ruggieri, Vezio, Milizie, Daria, Romano, Francesca. "Effects of Body Image on Tactile Sensitivity to a Tickle: A Study of Pregnancy," Perceptual and Motor Skills, 49:555-563, 1979.
- Sampson, Norma. "Peritoneal Dialysis as a Treatment Modality," Nephrology Nurse, 15-17, January/February, 1980.
- Secord, Paul F. and Jourard, Sidney M. "The Appraisal of Body-Cathexis: Body-Cathexis and the Self," Journal of Consulting Psychology, 17:343-347, 1953.
- Shane, Rachel, and Linn, Margaret W. "The Pregnant Couple," International Journal Gynaecol Obstet, 15:231-234, 1977.
- Singletary, Yvonne. "More Than Skin Deep," Journal Psychiatric Nurse and Mental Health Services, 7-13, February, 1977.
- Sorrels, Alice J. "Continuous Ambulatory Peritoneal Dialysis," American Journal of Nursing, 1400-1401, August, 1979.
- Stephen, Robert L., Kablitz, Carl, Kitahara, Mitsuo, Nelson, James A., Duffy, Douglas P., and Kolff, W.J. "Peritoneal Dialysis: Peritonitis: Saline-Iodine Flush," Dialysis and Transplantation, 8:584-596, June, 1979.

Whittaker, Alice Ann. "Influence of Psychosocial Factors on Adjustment to Continuous Ambulatory Peritoneal Dialysis," (Unpublished Thesis), 1983.

Wineman, Nancy M. "Obesity: Locus of Control, Body Image, Weight Loss, and Age-at-Onset," 29:231-237, July-August, 1980.

Young, Michael, and Reeve, T. Gilmore. "Discriminant Analysis of Personality and Body-Image Factors of Females Differing in Percent of Body Fat," Perceptual and Motor Skills, 50:547-552, 1980.