

BODY IMAGE AND COMPLIANCE IN HEMODIALYSIS PATIENTS

A THESIS

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CHAPTER 1

INTRODUCTION

The problem of noncompliance with a prescribed medical regimen in chronic illness has been of increasing interest in the past decade. A number of studies have shown that noncomplinance is a complex problem with many interrelated factors influencing the individual to follow part or all or none of his health recommendations (Sackett & Hayes, 1976). In addition to the stress of chronic illness, end-stage renal disease (ESRD) patients must face the impact of prolongation of life by a mechanical process. This dependence on a machine for life represents a threat to the patient's identity and body image (Abram, 1969). Czaczkes and De-Nour (1978) suggested that this change in body image leads to noncompliance.

Age, sex, socioeconomic status, education, religion, race, and mental status have rarely been predictive of compliance (Hecht, 1974). Studies of the relationship between the degree of supervision and compliance have found an association with outpatients showing less compliance. Other factors associated with noncompliance

are the complexity of the regimen, duration of treatment, convenience and efficiency of the clinic, degree of behavioral change required, the patient-therapist interaction, and the patient's health belief model (Sackett & Hayes, 1976).

The person with ERSO must face a complicated, self-administered regimen with many restrictions as well as a demanding mode of treatment twice or thrice weekly for life unless a renal transplant is performed. Compliance to the prescribed medical regime is a cardinal aspect of the patient's survival as well as adaptation to a life dependent on a machine.

The literature is replete with patients' description of themselves as "part of the dialysis machine, tied to the machine," or characterizing the blood lines as umbilical cords (Abram, 1969; Cooper, 1967; Shea, Bogdan, Freeman, & Scheine, 1965). Czaczkes and De-Nour (1978) recognized the changes in body image as being caused by the use of the dialysis machine and appearance changes brought about by renal disease and necessary operations, but feels lack of urination is a more important aspect in changes in body image.

The six major sources of stress inherent in the situation for hemodialysis patients are summarized by

Czaczkas and DeNour (1978) as (a) loss or threat of loss of external objects, (b) restrictions, (c) conflicts about dependency, (d) increased aggression, (e) threat of death, and (f) changes in body image. These authors believed these stressors differ in their severity for different patients, but that the patient's adjustment or adaptation is determined by the methods used for handling these stresses by significant others.

Both body image and compliance patterns have been shown to be influenced by others. The body image change is influenced and reinforced by other's perceptions of the individual as well as his own (Czaczkas & De-Nour, 1978; Schilder, 1950). The individual's concept of his body has been demonstrated to be highly influential in much of his behavior, general personality, and state of health (Murray, 1972; Schilder, 1950).

Compliance, as the literature indicates, consists of both attitudinal and behavioral aspects (Abram, 1974; Abram, Moore, & Westervelt 1971; Czaczkas & De-Nour, 1978). However, the literature, as can be documented at this time, does not reveal any scientific studies to establish a possible connection between compliance in the ESRD patient and the adoption of a positive or negative body image change.

Problem of Study

Is there a relationship between the renal patient's body image and compliance with his total therapeutic regimen and its subcomponents?

Justification of Problem

In the United States today, there are over 36,000 people on chronic dialysis; 12,000 of these are awaiting kidney transplants of which only 4,000 will be transplanted (American Kidney Foundation, 1979). It is estimated by the American Kidney Foundation that the patient population will increase by 10,000 a year due to the increase in hypertension, heart disease, increase in longevity in both the general population and diabetics, and the availability of treatment for renal disease. Treatment to all ESRD patients has been made possible by special funding by the United States government through a special social security bill (U.S. Department of Health, Education, & Welfare, 1972).

These persons with ESRD face a complicated therapeutic regimen with a demanding mode of treatment while attempting to adjust to the stresses of a chronic illness. The average fee for each of these treatments is \$150. Not only must the patient build his life around

these costly treatments but he must face many diet and fluid restrictions and the taking of medication for the rest of his life (Czaczkes & De-Nour, 1978).

Compliance to these restrictions as well as the hemodialysis treatments is essential to maintain an optimal level of wellness in ESRD patients. Compliance to the entire medical regimen has been recognized as necessary to prevent the costly, and sometimes painful if not fatal complications accompanying ESRD (Abram, 1974). However, there are only limited data available on the compliance of these patients (Sackett & Hayes, 1976).

Marston (1970), in her general review of compliance research, found only 40% of patients complying with their therapeutic regimen while Rosenberg (1973) found one-fourth to one-half of all patients failing to take their medications. A study by De-Nour, Shalteil and Czaczkes (1968) revealed that the behavior of more than half the hemodialysis patients observed ranged from only "fair" compliance to "great abuse." Comparison of compliance studies, however, are not valued due to the variety of methods used to measure compliance. Both subjective measures, such as patients' response, and objective measures, such as laboratory tests were used.

These high rates do, however, indicate a problem in compliance.

In an effort to clarify this problem of noncompliance in renal patients, there have been many variables analyzed. Demographic variables were reviewed in Sackett and Hayes (1976). Defense mechanisms, behavior and personality factors, and body image were investigated by Czaczkes and De-Nour (1978). However, most discussions on body image have been based on case studies or speculative essays (Abram, 1969, 1970; Edmunds, 1970; LeFebvre, Norbet, & Crombez, 1972). Czaczkes and De-Nour (1978) hypothesized that body image problems lead to noncompliance. Other investigations dealt with other personality factors such as low frustration tolerance, denial of sick role, suicidal behavior, and superstitions.

Much of the sparse research on renal patients' compliance deals with only one aspect of compliance, such as Blackburn's (1977) research on potassium and phosphorous level compilers. A number of studies mentioned hyperkalemia as the cause of death in hemodialysis patients (Brunner, Giesecke, & Gurland, 1976). Hyperkalemia is assumed to be caused by abuse of the diet in the majority of cases (Czaczkes & De-Nour, 1978). In his study, Blackburn (1977) found women better

in adhering to potassium and phosphorous management practices. Abram et al. (1971) found noncompliance with the prescribed diet the direct cause of death in 4% of the patients in a large study involving a questionnaire. DeNour et al (1968) found 8 out of 10 patients who died on dialysis rated as abusers of their prescribed diet.

There is little known about compliance with fluid restrictions although patients are routinely weighed pre- and postdialysis. One unit reported a mean weight gain between dialysis sessions of 3 kl with 50 of 60 patients complaining of thirst. There are no studies on the results of abuse of fluid restrictions, but one-fourth of all deaths of ESRD patients are caused by cardiac failure. This failure can be due to noncompliance with the fluid restrictions (Czaczkes & De-Nour, 1978).

The extreme of noncompliance occurs when the patient withdraws from dialysis or in effect refuses treatment. The magnitude of this problem has been consistently established in different reports. In a questionnaire study of 127 patients, only 0.7% of patients died because of withdrawal (Abram et al., 1971). Data provided in a statistical report of 1,270 dialysis centers by Brunner et al. (1976) showed a 1% mortality caused by withdrawal. However, Goldstein and Reznikoff (1971) in a study of 201

clients disputed withdrawal a method of suicide but viewed withdrawal as nonadherence to attendance due to the patients' external locus of control. Czaczkes and De-Nour (1978) did not include withdrawal as suicide rather seeing suicide as instances where the patient actively terminates his own life. In a study of 120 patients over a 5-year period, two subjects withdrew from dialysis (Czaczkes & De-Nour, 1978).

In an analysis of 78 dialysis patients over 5 years, another study found an extremely high rate of mortality (9%) because of refusal of treatment (Cadnapaphornchai, Chakko, Holmes & Schrier, 1974). Abram et al. (1971) reported 29 withdrawals from a study of 3,478 dialysis patients. It is impossible, therefore, to report how great a problem withdrawal or refusal of treatment is due to the difference in reported statistics whether this difference is due to different methods of gathering information or if in fact withdrawal is greater in some units than others.

During the first few years of hemodialysis, emphasis was placed on methods of selecting or rejecting patients. Later the interest shifted to a research and predictive study about patients' personality traits effect on adjustment to dialysis. It is the opinion of Czaczkes and

De-Nour (1978) that predialysis assessment and intervention should be used to improve patient care and facilitate optimal adjustment. These interventions are classified by their aim and target: (a) relief of symptoms, (b) psychological support, and (c) changes in behavior.

In the group of interventions aimed at achieving some changes in behavior, Abram (1970) and De-Nour et al. (1968) recommended such goals as resolving the conflicts about dependency-independency, the problem of aggression, the ambivalence about continuation of life, and body image problems. It has been found that staff attitudes and interventions had more influence on patients fulfilling their potentials for adjustment and doing better in compliance than psychotherapy did (Abram, 1969, 1974; Abram et al., 1971; Czaczkes & De-Nour, 1978; De-Nour et al., 1968; Levy, 1973).

Abram (1974) saw the well-adjusted patient as accepting illness and treatment (and the dependence associated with it) and remaining independent when not on dialysis. Shea et al. (1965) first raised the crucial issue of dependence and in addition, drew attention to both denial and body image distortions in these patients. Shea et al. saw patients as losing their sense of identity after becoming dependent on the dialysis machine.

Patients included the dialyzer as part of themselves in figure drawings. Also described in this study were patients who could not accept the shunt as part of themselves and frequently subjected their cannulated arm to unnecessary trauma. Cooper (1967) cited cases of patients personalizing the dialysis machines by giving the machine human attributes. Abram (1974) observed

Body image distortions must be recognized and studied if we are to understand the patients' adaption to dialysis. They offer an avenue for gaining insight about the relationship between man and his survival by machine. (p. 8)

Shea et al. (1965) stated that the emotional reactions to the need for hemodialysis probably represented the greatest obstacle to successful adaption.

In summary, it has been recognized that compliance to the therapeutic regimen is a cardinal aspect of the successful adaption to the hemodialysis faced by the ESRD patient. Many factors have been postulated as influencing this compliance. One factor is body image.

The information and understanding of the role of body image in compliance is still limited. If this information and understanding can be increased, the nurse can improve patient care. This improved care can lead to a better quality of life for the hemodialysis patient.

Theoretical Framework

The theoretical framework for this study was based on Lazarus' (1976) multimodal behavior therapy. Lazarus, a behaviorist, saw a major portion of any therapy as educational. The answers to the questions of how and why people learn and unlearn adaptive and maladaptive behavior are crucial for effective therapeutic interventions. If these questions could be answered, the nurse could then assess the patients' compliance or noncompliance as adaptive or nonadaptive behavior and plan and implement the therapeutic interventions to bring about the desired adaptive behavior or compliance.

To answers these questions of how and why Lazarus (1976) believed any behavioral assessment must be based on a view of the total person. Lazarus included aspects not readily observable, such as affect, cognition, or imagery in his assessment. This theoretical framework reinforced the concept of imagery as an important component related to the patient's self-perception or body image. This image can affect the behavior of the subject resulting in compliance or noncompliance.

Lazarus' (1976) acronym for the holistic assessment of the patient is the BASIC ID. The letters stand for the

following concepts or modalities which make up the total person:

- B - Behavior: things he/she does
- A - Affect: feelings experienced
- S - Sensations: reactions by the senses
- I - Imagery: mental pictures or images experienced
- C - Cognition: thoughts, values, attitudes, or beliefs
- I - Interpersonal: dealing with other people
- D - Drugs: organic or chemical factors

This assessment of the total person was based on the proposition that "each modality interacts with every (other) modality" (Lazarus, 1976, p. 36). Lazarus postulated that "the aim of multimodal therapy is to achieve a balance both within a particular modality and between modalities" (p. 35). This balance among modalities can only be accomplished by a thorough assessment.

The nurse who only assesses the renal patient's behavior, interpersonal relationships, or physical status will have overlooked or omitted the assessment of other modalities, including imagery. According to Lazarus' (1976) theory, the renal patient's imagery may include a

mental picture of himself (body image) which may be related to his experiencing hemodialysis and/or chronic illness. If Lazarus' proposition that every modality interacts with every other modality is correct, then one could expect that the hemodialysis patient's imagery would interact with his behavior.

Assumptions

The following assumptions were made for use in this study.

1. Every individual has an image of her/his body.
2. End-stage renal disease (ESRD) and hemodiaysis can alter body image.
3. Body image changes are affected by others' perception as well as the individual's perception.
4. Body image can affect behavior.
5. Adaptive or maladaptive behavior is learned and can be relearned.

Hypotheses

For the purpose of this study, the following hypotheses were tested.

1. There is no relationship between compliance to the prescribed therapeutic regimen score by the ESRD

patient and his body image score as measured by his Draw-A-Person score.

2. There is no relationship between compliance score with prescribed attendance to hemodialysis treatments by the ESRD patient and his body image score as measured by his Draw-A-Person score.

3. There is no relationship between the compliance score with prescribed potassium restriction score in the diet by the ESRD patient and his body image score as measured by his Draw-A-Person score.

4. There is no relationship between the compliance with the prescribed fluid restriction score by the ESRD patient and his body image score as measured by his Draw-A-Person score.

5. There is no relationship between the compliance with the prescribed medication score (phosphate binder) by the ESRD patient and his body image score as measured by his Draw-A-Person score.

Limitations

The limitations in this study were:

1. The study was conducted in only one geographic area.
2. The sample was small and nonrandom.

Definition of Terms

For the purpose of this study, the following terms were defined.

1. Renal patient--a person who has a severe reduction in renal function which cannot be reversed and requires hemodialysis (Leaf & Cotran, 1976).
2. Hemodialysis--a dialysis treatment in which blood flows extracorporally within tubes or channels formed by a semipermeable membrane, the other side of which is exposed to a suitable salt solution (Czaczkcs & De-Nour, 1978).
3. Body image--the picture a person has in his mind of his own body (Murray, 1972). In this study, the body image was represented by the score obtained on the Draw-A-Person Test.
4. Compliance with regimen--the extent to which the patient's behavior coincides with his therapeutic regimen including restrictions of diet and fluids, taking certain medications and attending hemodialysis treatments.
 - a. Medication--cooperation with prescribed phosphate binder shown when 3 months average serum phosphorus level is within 4-6 range on laboratory tests.

b. Fluid restrictions--adherence to prescribed ingestion of fluid shown by 3 months average weekly maximum weight gain of 10-12 lbs. as indicated by pre- and postdialysis weights on a balance scale.

c. Diet restrictions--acceptable restriction of dietary potassium resulting in a 3 month's average serum potassium laboratory value 4.0-5.5 meg.

d. Attendance--compliance with scheduled dialysis treatments for 3 months resulting in week average of 10-12 hours.

Summary

The success of hemodialysis depends in a great part on the patient's compliance to his therapeutic regimen. It has been hypothesized by Czaczkes and De-Nour (1978) that body image affects this compliance.

The body image, like other self-perceptions, is a product of relevant experience with others and their reactions to the self. The body image can change. The nurse can aid this change to be a positive one utilizing specific interventions. If a relationship between body image and compliance exists, these interventions can lead to greater compliance and a more successful adaption to the ESRD patients chronic illness.

CHAPTER 2

REVIEW OF LITERATURE

The increasing incidence of renal failure and the costly procedure of maintenance hemodialysis has led investigators to search for specific physiological and psychosocial factors in hemodialysis patients which would be predictive of compliance to the medical regimen. One such factor has been body image. In this chapter, selected body image studies and compliance with a medical regimen studies were reviewed.

Body Image

The concept of body image has been defined by numerous authors and investigator (Fisher & Cleveland, 1968; Gorman, 1969; Norris, 1970; Schilder, 1950). Schilder (1950) explained that the picture of ourselves we form in our mind is based on physical input such as pain, motor control over limbs, and emotional input. Gorman (1969) stated one's body image is based on present and past perceptions and experiences--a dynamic entity that exists in the mind and is affected by every bodily action. Norris (1970) agreed with Gorman's (1969) theory and added that the body image is basic to identity, a social

creation, interdependent with personality, ego, self-image, and a determinant of behavior.

There have been numerous studies of body imagery which indicate the body image is influenced by the experiences a person has within and without the body. Schiebel and Castelnuroo-Tedesco (1977-78) utilized Gorman's (1969) definition of body image to study changes after jejuno-ileal bypass of superobese persons. They divided the body imagery into two components: the "perceptual-cognitive" and the "affective components." The perceptual-cognitive component was measured by a self-portrait human figure drawing both pre- and postoperatively and the effective component was measured by a sentence completion test. The conclusions of the study were that the perceptual-cognitive component changed promptly and accurately while the affective changed for slower, if at all (Schiebel & Castelnuro-Tedesco, 1977-78).

Tolor and Digrazia (1977) investigated the body images of pregnant women in all trimesters of pregnancy and those recently delivered. They used a control group of nonpregnant gynecological patients. The pregnant women differed significantly ($p = .001-.05$) from the control group in that 58% had more nude drawings, 45% emphasized

the genitals, 32% distorted the drawn figure and the drawings of the pregnant women were made smaller in size.

Several studies of the relationship between body imagery and patients with cancer have been done (Achterberg & Lawlis, 1978; Marten, 1978; Polivy, 1977; Wagner & Bye, 1979). Polivy (1977) found the body image was significantly changed ($p = .01$) immediately postoperatively for breast biopsy patients and mastectomy patients' body image worsened several months later. Achterberg and Lawlis (1978) studied cancer patients who were taught to use relaxation and guided imagery, which included their images of their body, its immune system and the cancer cells. Those patients who had a favorable prognosis were predicated as well as those with unfavorable prognosis by the use of the score from the Image-Ca Test (Achterberg & Lawlis, 1978).

Wagner and Bye (1979) administered a Body Image/Social Activity questionnaire to 77 cancer patients who had received cancer chemotherapy. The researchers found no statistically significant differences in the patients with alopecia and those without. The researchers had expected those with alopecia to score lower on the questionnaire and contributed the patient's minimization of hair loss to positive health care experiences such as

good preparation, individual attention, and continuity of care.

Two different physical problems of weight have been investigated in relationship to body image, obesity, and anorexia nervosa (Bruch, 1973; Dikowitz, 1976; Wineman, 1980). Dikowitz's (1976) case studies of anorexia nervosa found poor body image is commonality among the anorectics.

The patients don't know what they look like . . .
. they are frightened by any sign of fat on
their bodies . . . at their most heartbreakingly
skeletal they believe they look beautiful.
(p. 35)

In a retrospective investigation of 116 members of Overeaters Anonymous, Wineman (1980) found a positive linear relationship between locus of control body image and weight loss. Rotter's Social Reaction Inventory and Second and Jourard's Body Cathexis Scale were the instruments used during this study. The researcher's conclusion was that "Locus of control and body image, which characteristically develop early in life, significantly affect the course and prognosis of the disease" (Wineman, 1980, p. 231). Bruch (1973), in her cases of 130 anorectics and 100 obese patients, found "their basic delusion was in not having an identity of their own" (p. 90). She saw the manifest illness as a

late step in the individual's struggle to acquire an adequate self-concept and a sense of control over his body and life.

Much of the literature on hemodialysis patients find the same struggle to acquire an adequate self-concept and control over their bodies. However, Cummings (1970) pointed out the reality of the dialysis patients' reactions. He found the dialysis patient not usually laboring feelings of deep self-abasement on worthlessness. In contrast, Severino (1980) raised the question whether a patient's inability to incorporate a new kidney into her self-image contributed to her ultimate rejection of the kidney. While on dialysis, she had integrated the kidney machine into herself as her uterus. She drew a picture of herself as a "potbellied man" incorporating a configuration as though the machine existed inside the abdomen.

Several authors reported descriptions by their patients of their fantasies and dreams about changes in their body image (Abram, 1969, 1970; Foy, 1970; Kalman, 1979; LeFebvre, Nobert, & Crombez, 1972) and others inferred and observed such reactions in their patients (De-Nour, 1969; De-Nour & Czaczkes, 1972; Shea et al., 1965). Kalman (1979), in his capacity as consulting psychiatrist, used an evaluation of two patients' dreams

to provide insight into previously unrecognized conflicts. One patient dreamed of himself as a puppet under the control of others; therefore, was noncompliant in an effort to exert some control over his life.

The dreams of dialysis staff as well as patients reflects the fears and anxiety of a situation where life itself depends on a machine and the technical skill and alertness of those who operate it. In these dreams, Foy (1970) related the dialysis machines was all important and the patients' and nurses' lives revolved around them. Abram (1970) observed that much of the material related to body image distortion is evident with the renal patient only at an unconscious level. He saw the fantasies and dreams of the personnel taking care of the patients as another source of information concerning these distortions. In a report of various fantasies in their patients, LeFebvre et al. (1972) included the idea of the kidney machine being omnipotent, and of one female patient's fantasy of the machine's tubing encircling her and tickling her body sensuously.

All hemodialysis treatments require an access to the patient's vascular system. This is usually accomplished by the use of an arteriovenous shunt and/or fistula. Nassen (1970), during the care of a young girl, studied

the effect of the shunt on body image. Three patterns of behavior were identified: "intense preoccupation with the shunt, almost passive acceptance of and/or lack of complete concern for the shunt, and complete denial of the shunt" (p. 2171). The hypothesis of Nassen's study was

The type of psychological adjustment made by a patient requiring surgical implantation of an arteriovenous shunt depends, to a large degree on the effect he sees acquisition of that shunt exerting on his body image and on the assistance he receives in coping with the emotional difficulties he experiences. (p. 2172).

Nassen's (1970) conclusions were

The more dependent and ambivalent the relationship between the patient's self-concept and body-image, the more limited his experience with death and grieving, the younger he is, the fewer his meaningful interpersonal relationships and the more abrupt the onset of his disease, the more difficult will be his task resolving the loss of body-image. (p. 2172)

In addition to studies on the effect of an arteriovenous shunt has on dialysis patients, there have been studies on reactions of patients to lack of urination. De-Nour (1969) studied the reactions of several dialysis patients to total or near total lack of urination. He found that patients continued to report that there was some urinary output, that their bladders were distended and that they felt the urge to urinate.

Some of these patients had had a bilateral nephrectomy. De-Nour reported that even though the removal of an internal organ (kidney) upon body image remained unclear, this reaction was much like the phantom-limb phenomenon.

An investigation by structured questionnaire of this phantom phenomena in 44 hemodialysis patients was conducted by Kane and Simes (1977). The phenomena of phantom urinary functions were reported by 17 of 24 men and 7 of 11 women studied. These findings supported the premise that phantoms represent a psychological response to a loss of an important function.

In summary, it would appear that several things occur in chronic hemodialysis which causes changes in body image. Three factors frequently recognized in the literature are (a) changes because of dependency on a machine, (b) changes in physical appearance and functions due to uremia and access operations, and (c) loss of urination. These changes in body image are seen as a major source of stress for dialysis patients in most of the literature reviewed.

Compliance

The general concept of compliance is a broad category of behaviors by which an individual adheres to a

prescribed medical regimen (Kasal, 1975). The literature abounds with studies indicating that noncompliance is a predominant feature of all therapeutic regimens. In 1974, a workshop/symposium on compliance with therapeutic regimens was held. During this workshop, 300 compliance-related articles were reviewed. Six major factors that have been studied in relationship to compliance were classified by Sackett and Hayes (1976) as:

1. demographic features of patients;
 2. features of the disease;
 3. features of therapeutic regimens;
 4. features of the therapeutic source;
 5. features of the patient-therapist interaction;
 6. sociobehavioral features of patients.
- (p. 27)

The reports varied widely and were often contradictory. Noncompliance was found in all types of regimens and patients with the determinates of compliance still unclear (Blackwell, 1973; Davis, 1971; Marston, 1970; Sackett & Hayes, 1976).

Sex, socioeconomic status, religion, and marital status were not found to have any overall effect on compliance with the therapeutic regimen (Hayes, 1976; Marston, 1970). Davis' (1971) review found the same inconsistency as Hayes' (1976) and Marston's (1970), but stated generally

females are more likely to default than males, and older people and patients in lower socioeconomic status groups with little education are least likely to follow doctor's orders. (p. 32)

One other factor which has been related to adherence to a treatment regimen is the patient's understanding of his disease or therapy. The literature relating a patient's compliance to and knowledge of his treatment regimen is inconclusive. Marston (1970) cited the fact that knowledge does not always lead to compliance. Togliacozzo (1974), Sackett and Hayes (1975), and Billie (1977) found no association between compliance and knowledge of disease. In contrast, Rosenberg (1973) stated that noncompliance is a direct result of the health team's failure to define and carry out the educational portion of the patient's treatment. Rosenberg (1971) and Hecht (1974) demonstrated increased compliance after the implementation of an education prescription. In a different study, a group of dieticians used programmed instruction to improve dietary compliance in hemodialysis patients. Although recall of information was significantly improved, it was concluded that further reinforcement measures would be needed to achieve desirable adherence to a dietary prescription (Lawson, Talor, & Gram, 1976).

Features of the disease including the severity of the illness, the length of time under treatment, and the degree of disability and their relationship to compliance have been studied. Marston (1970) stated that there was no consistent association between severity of illness and compliance. This statement was based on a review of literature dealing with the objective severity of illness. In one study, Davis (1971) found that patients with serious illnesses were less compliant than those with less severe ailments. However, Hecht (1974) found patients with severe illnesses more likely to be compliant. The type of diagnosis was found by Haynes (1976) to be significant only if a psychiatric diagnosis was exhibited.

Among the factors that were found to have an influence on compliance were the amount of different medications prescribed for the patient, the complexity and inconvenience of the scheduling of these medications, the side effects suffered by the patient, and the patient's perception of the consequences of noncompliance (Haynes, 1976; Hulka, Cassel, Kupper, & Burdette, 1976; Marston, 1970; Podell & Gary, 1976). The number of medication errors were found increased as the number of drugs prescribed were increased (Haynes, 1976; Hulka et al.,

1976; Weintraut, 1975). Haynes (1976) reported 12 studies showing a negative correlation between increased complexity and compliance while only 3 showed a positive association. Clark and Troop (1972) found that by changing daily medicine doses from multiple tablets to a single tablet, a group of hypertensive patients improved their compliance. Earlier, Francis, Korsch and Morris (1969) reported that compliance was lower if as many as three medications were prescribed in a group of pediatric patients.

Hayes (1976) found one feature of the therapeutic regimen most significantly related to compliance. This feature was the degree of behavioral change required by the therapeutic regimen. A new habit, such as taking an oral medication, was met with greater compliance than altering an old habit such as overworking, overeating, or use of alcohol or drugs.

Dialysis patients are asked to follow a diet regimen which restricts protein, sodium, potassium, and fluid intake. Social habits of food and drink intake at most gatherings further impose changes in the life-style of the renal patient. Food often becomes a preoccupation, and prohibited foods are used to seek gratification and reduce stress (Procci, 1978).

The De-Nour and Czaczkes' (1972) studies found 50-65% of dialysis patients abuse their diet to a moderate extent. They found that patients who had low frustration tolerance and who experienced secondary gains from their illness and accepted the sick role were most likely to be noncompliant. These findings were confirmed by Procci's study (1978). Procci found that patients who complied well worked at least 75% of the time, lived with their spouse and children, and had a much higher level of frustration tolerance than those of noncompliant patients.

O'Brien (1980) reported statistically significant associations between patients' perceptions of the significant others, in terms of both primary group members (family and friends) and secondary group members (hemodialysis center personnel) and compliance. Hartman and Becker (1978) also reported better compliance among married patients and less adherence among patients with relatively little social support. Foster and Kousch (1978) stated that if patients are to follow any health behavior over a time, the patient's significant others and health caregivers must provide support.

In assessing the sociobehavioral determinants of compliance, Pritchard (1977) showed that compliance was

associated with a patient's belief in following doctor's instructions. Finnerty (1978) reported that noncompliance was significantly associated with lack of communication and support on the part of the physician. Barofsky (1976) pointed out that compliance is often a direct result of the social control exerted by health care givers. However, Bernade and Mayerson (1978) suggested that patients will be noncompliant unless they are involved in ongoing negotiation with their caregivers.

In a study of 23 medically stable patients receiving long-term dialysis treatments, three specific areas of family functioning were correlated with patient adherence to their regimen. High ratings were seen in patients whose family (a) exhibit respectful, shared adult leadership, (b) have strong parental coalitions, (c) have the ability to take individual responsibility, (d) demonstrate effective problem-solving skills, and (e) have an open responsive stance to the opinions of others (Steidl, Finkelstein, Wexler, Feisenbaum, Kitsen, Kliser, & Quinlan, 1980).

In interviews to determine the value system of 69 renal patients and implications for behavior, it was found that physical independence from others and self-control were ranked third in their value system. Sanity and use

of entire body were first and second, respectively. This study suggested lack of adherence might be an attempt by the patient to exercise control over his environment (Ford, 1977).

Goldstein and Reznikoff (1971), in their study of 22 dialysis patients, also proposed that the reason patients do not comply to the treatment regimen is because they adopt an external locus of control in which their own behavior exercises little influence upon what happens to them. Gentry and Davis (1972) also suggested that the nature and stresses of the chronic hemodialysis picture lead the patient to become externally orientated, as a method of coping with anxiety and responsibility or through realization that things outside themselves (e.g., the kidney machine and/or dialysis staff) exercise great control over their lives.

The Health Belief Model has also been studied in an effort to predict and improve compliance. From December, 1977 through February, 1978, a group of 50 patients were compared in terms of compliance levels and selected health belief variables. The compliance measures used by Hartman and Becker (1978) were laboratory data with regard to weight gain between dialysis treatments, serum phosphorus levels, and serum potassium levels. The attitudinal or

health beliefs of the subjects were gathered by a personal interview with each patient lasting 1 hour. The interview was designed to elicit

the individuals' perceptions of their state of health, personal resusceptibility to its (ESRD) sequelae, perceived severity, . . . feelings of control over health matters, faith in doctors and medical care, and extent of family problems. (p. 979)

The three objective compliance measures revealed 39% of the patients compliant in taking phosphate-binding medication, 74% compliant to limiting potassium in the diet, and 78% adhered to fluid restrictions. The degree of concern the patients related to possible sequelae of noncompliance suggested that the compliers felt able to cope with treatment regimens. The findings in general were that the patient's health belief appears to be of value in explanation of compliance behavior.

A second broad theme discussed in this study relates to the noncompliant patient's self-perceptions, which include tendencies toward external (fatalistic) orientation concerning ability to control life events, toward becoming easily frustrated, and toward willingness to derive secondary gain from being sick as did studies by Goldstein and Reznikoff (1971) and Gentry and Davis (1972). The patient who is less likely to adhere to the

prescribed regimen is described in this study as one who (a) is less worried about personal health matters, (b) exhibits less faith in the value of every aspect of the therapy, (c) sees no serious sequelae to noncompliance, and (d) sees a variety of barriers to compliance. This study also found the less adherent patient more likely to be young, female, unmarried, to have relatively less social support, and to have been under dialysis treatment for a shorter period (Hartman & Becker, 1978).

The nature of noncompliance has been difficult to determine. It has been concluded by several researchers that in spite of objective knowledge about their disease and therapeutic regimen, those individuals with negative attitudes toward their disease and treatment or inaccurate beliefs were those most likely to exhibit noncompliant behavior (Elsberry, 1972; West, 1977). Attention has also been directed to the feelings or attitudes people have toward their own body, and body image has been recognized as a possible indicator of compliant and noncompliant behavior (Billie, 1977; Dropkin, 1979).

Billie (1977) investigated the possibility of barriers to learning occurring in patients who had not accepted the reality of their health situation. In a study of 24 men, ranging in age from 32 to 75 years,

hospitalized with a clinical diagnosis of acute or probable myocardial infarction, Billie sought to determine the effect of one aspect of body image (body cathexis) on the patient's ability to learn and on his subsequent compliance with posthospitaliation prescriptions. The body-cathexis scale of Secord and Jourard was used as the measure of body image. Compliance with posthospitalization prescriptions was estimated by a telephone interview 1 month after discharge. A knowledge test developed by Billie was used to obtain a rating for the patient's knowledge. When the data from the three instruments were compiled, no significant correlation between body cathexis and achieved knowledge was evident. However, the hypothesis which proposed that a relationship exists between body cathexis and compliance with posthospitalization prescriptions was statistically significant. A statistically significant correlation was not found between achieved knowledge and compliance.

Dropkin (1979) studied compliance in 10 men who had recently undergone head and neck cancer surgery to measure the approval-dependent aspect of body image. Compliance with the therapeutic regimen was assessed through self-care activity observed between 8 A.M. and 8 P.M. The data obtained were examined for potential relationships between

SDS score, time voluntarily spent out of the room, self-care activity, and the degree of disfigurement. Dropkin found the patient who had a mature body image manifested by a low need for social approval likely to be compliant with self-care but less likely to ambulate. The patient with a less complete body image may spend a great deal of time out of his room since interaction with others reassures him he is still socially acceptable. In addition, this patient may be less compliant in self-care in order to necessitate nursing care which may act as a validation of the patient's individual worth.

Summary

This chapter has reviewed the literature concerning body image and compliance. There have been a number of factors reviewed concerning body image in relationship to compliance such as locus of control. Some studies have found that other persons can affect an individual's perception of his body image.

Interest in compliance has been widely growing since the early 1960s. This phenomenon, the totally compliant patient, has been investigated by a variety of disciplines and by many methods, but no definite conclusions have been drawn.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

The methodology to compare the body image of hemodialysis patients and their compliance to their prescribed medical regimen is presented in this chapter. The setting, sample population, tools, and procedure for the collection and treatment of data are described. This study was an explanatory correlative survey which investigated the relationship between body image and compliance with a medical regimen.

Setting

A 12-chair limited care outpatient dialysis center which was located in a large southwestern metroplex was used in this study. The facility was one of five dialysis centers operated by a group of eight nephrologists. The facility provided hemodialysis treatment for 44 patients from four counties at the time this study was conducted.

The actual collection of data was done in a small conference room in the dialysis center to protect the privacy of the participants and their medical records. The laboratory data and attendance sheets were kept in each patient's chart behind the nurse's desk in the dialysis

center. Three charts were taken to the conference room at one time and the pertinent data retrieved.

After the consent to take part in this study had been obtained, the participant was conducted to the conference room. A blank sheet of paper and pencil were given to the subject. The subject then was left in private to draw himself. The room contained a table, chair, and adequate light to enable the client to comfortably draw himself.

Population

The population was 44 adult patients attending one dialysis center in Dallas County. From this population, 30 patients were selected by the convenience method. The subjects of this study had to be older than 18 years of age and had been on chronic hemodialysis 6 months or more. The subjects were voluntary participants. This type of nonprobability sample was not a true random sample but was the first 30 patients who happened to be at the dialysis center on the days the researcher was present (Abdellah & Levine, 1978).

Protection of Human Rights

The proposed study was submitted to the Human Subjects' Review Committee of Texas Woman's University (Appendix A) for review and permission to collect data,

and agency permission was obtained from the medical director of the hemodialysis center (Appendix B).

Prior to administration of the Draw-A-Person test and collection of objective compliance data from the medical records, written permission was obtained from each participant using the Texas Woman's University written description form (Appendix C). The study was explained orally to the subjects (Appendix D). Anonymity was assured to each subject by coding the sheet given to draw a person on and coding the raw laboratory and attendance data sheet. The key to the coding was kept by the researcher until the end of the study and then destroyed.

Each participant was assured that he was free to participate or not or withdraw at any time. One participant requested his drawing be removed. This was done immediately and his drawing destroyed as requested. The results were made available to the participants who were interested.

Instruments

The data-gathering tools employed in this study were the Draw-A-Person test and a tabulation sheet. The tabulation sheet, developed for the study, was used to retrieve the age, sex, and objective measures of compliance from the subjects' medical records (Appendix E).

The Draw-A-Person test was used to determine the body image score of the subjects. The Draw-A-Person test is a type of human figure drawings developed by Goodenough in 1926. As a projective technique, human figure drawings have been used by Machover (1949) to measure personality and by Hammer (1975) and Koppitz (1968) to measure the inner concept of self. Hammer (1975) stated "subjects tend to express themselves as they are, or would like to be" (p. vi). Koppitz (1968) assumed the human figure drawings reflected the individual's concept of his body image and developed a scoring system of emotional indicators to measure this concept (Appendix F). This scoring system was used in this study to score the subject's body image after permission was obtained from the publisher (Appendix G) and Koppitz (Appendix H). A more directive approach was used as Sanchez (1974) employed. The subjects were asked to draw themselves.

The reliability of scoring the Draw-A-Person was determined with the aid of another qualified psychologist by Koppitz in 1968. The two psychologists scored independently of each other the Draw-A-Person test of 10 randomly second-grade pupils and 15 children who had learning and behavior problems. There was perfect agreement on the scoring of 10 drawings and a difference

of 1 or 2 points only on the other 15. Plutchik, Conte, Weiner, and Teresi (1978) tested the reliability of Koppitz' emotional indicators (Appendix I) based on the correlaton between raters and found "it is quite easy to make a reliable judgment on the presence or absence of each of the indicators in a drawing" (p. 70).

The emotional indicators were validated by Koppitz (1968). Several studies were designed to determine if the emotional indicators occur more often on the human figure drawings of subjects with emotional problems. The subjects in one study were 76 pairs of public school children matched for sex and age. Group A consisted of 76 patients of a child guidance center and 76 were pupils selected by their teachers as outstanding all round students. As a result of this study, 30 items qualified as Emotional Indicators (Koppitz, 1968) (Appendix E).

Levy (cited in Hammer, 1975) wrote of an adult case study in which nine drawings were collected over 5 years. Levy stated that each drawing revealed changes in personality and integration when scored.

The raw data tabulation sheet was used to retrieve data from the subject's medical record. The subject' code number, age, and sex were listed on this sheet. The monthly laboratory values of the subject's potassium and

phosphorus for 3 months were listed in order to establish their mean serum level. The hours attended and the interdialytic weight gain for 3 months were also listed to obtain these means. The means were then compared to the values defined as within compliance or noncompliant range. If the mean value was considered as compliant, a weighted score of 1 was marked under the section compliance score. If the mean value fell above or below the value stated, 0 was marked. The sum of these scores of compliance was used to give the total compliance score of each client. The sum varied from 4 to 0.

The last section on the tabulation sheet used was the Draw-A-Person score which retrieved the score obtained from the human figure drawings using Koppitz' emotional indicators. A score of 2 or more emotional indicators was considered as indicating a maladaptive negative body image and scored as 0. The absence of emotional indicators or the presence of only one was scored as an adaptive or positive body image and scored as 1 (Sanchez, 1974).

Treatment of Data

In order to test the hypotheses, the Pearson product moment correlation ratio was used. "Correlations reflect two-way association or relationship" (Fox, 1976, p. 115).

Correlations do not decide causal phenomena but note the magnitude of a two-way relationship (Fox, 1976). The Pearson correlation ratio was used to test the significance of relationships between two continuous variables, the client's compliance score and his body image score.

CHAPTER 4

ANALYSIS OF DATA

This explanatory correlative survey was conducted to determine if a relationship existed between the body image of hemodialysis patients and their compliance to their therapeutic regimen (Abdellah & Levine, 1979). Koppitz' (1968) emotional indicators were used to score the human figure drawings of the study subjects. The human figure drawings and the collection of raw data were completed at an outpatient dialysis center. The Pearson product moment correlation coefficient was applied to determine significant findings. The hypotheses of the study were that no relationships exist between client's body image and their compliance to four aspects of their therapeutic regimen.

Description of the Sample

The sample of 29 subjects were all clients of a hemodialysis center which was independent of a hospital. The patients who completed the data collection varied in age from 21 to 73. The mean age was 43. Thirteen were female and 16 were male.

Findings

The results of the body image scores ranged from 0 emotional indicators to 8 with the mean being 3. The compliance scores ranged from 1 to 4, with the mean being 1. The results of the findings of the body image score and the compliance score were analyzed using the Pearson product moment correlation. Leedy (1974) stated that correlations are statistical descriptions that describe the strength and bond of the relationship between one variable and the other. In order to be considered significant, the Pearson product moment correlation must be less than .05. Each hypothesis was tested and is stated along with the findings.

1. There is no relationship between compliance to the prescribed therapeutic regimen score by the ESRD patient and his body image score. This hypothesis was rejected. The Pearson r was -0.533 . The Pearson $p < .0029$ showed a real relationship exists between body image and compliance to the medical regimen. This relationship was a positive relationship, i.e., the more compliant the patient, the more positive his body image.

2. There is no relationship between compliance score with prescribed attendance to hemodialysis treatments by the ESRD patient and his body image score. The null

hypothesis was supported. The Pearson r was -0.299 . Although the correlation was not significant (Pearson $p < .12$), it did indicate a possible tendency toward a relationship.

3. There is no relationship between the compliance score with prescribed potassium restriction score in the diet by the ESRD patient and his body image score. The null hypothesis was supported. The Pearson r was -0.020 . The Pearson product moment correlation coefficient ($p < .9163$) indicates no relationship.

4. There is no relationship between compliance with the prescribed fluid restriction score by the ESRD patient and his body image score. The Pearson r was -0.258 . The null hypothesis was supported by the Pearson coefficient which was $p < .18$.

5. There is no relationship between the compliance with the prescribed medication score (phosphate binder) by the ESRD patient and his body image score. The null hypothesis was supported. The Pearson r was -0.127 . The Pearson coefficient $p < .51$ showing no relationship between compliance with medication score and the body image score.

Additional Findings

Several findings from the analysis of data appeared relevant to the study purpose of establishing a relationship between compliance and body image. The subjects' ages and sex were part of the demographic data collected. The sample ages ranged from 21 to 73 years. A tendency toward a relationship between age and compliance was demonstrated by the Pearson coefficient value .10.

When compliance and sex were examined, it was found that young subjects demonstrated lower compliance scores and lower body image scores. Table 1 represents the subjects who were 25 years of age or less, compliance scores along with their body image scores.

As can be seen from Table 1, the two young subjects with a positive body image also had a complete compliance score. The others were compliant in attending treatments but did not comply with their medication regimen. The compliance with fluid restrictions and potassium were followed by three young subjects. Only one young male and one female had a positive image score out of the five young males and three young females tested.

There was no relationship between compliance and the deviation from the ideal potassium level. The Pearson

Table 1
Compliance of Subjects 25 Years of Age or Less

Sex	Body Image Score	Attendance	K+	PO ₄	Total Weight	Overall Total Compliance
Male	1	1	1	1	1	4
Male	0	1	1	0	0	2
Female	0	1	0	0	1	2
Male	0	1	1	0	0	2
Female	0	1	0	0	1	2
Male	0	1	1	0	1	2
Male	0	1	0	0	0	1
Female	1	1	1	1	1	4

product correlation as $p = .21$. No clear pattern of compliance or noncompliance was found in the 29 subjects. Only two patients were noncompliant in attendance while 13 did not comply with their recommended fluid restrictions. In general, the female subjects showed a greater tendency to comply with their fluid restrictions (see Table 2).

The body images of 16 subjects were positive while 13 were negative. Of the 16 male subjects, 7 scored a positive body image while 9 scored a negative body image. Four females scored a negative body image score. Only

Table 2
Comparison of Compliance to Therapeutic Regimen

Sex	No. of Subjects	Attendance	K+	PO ₄	Weight
Male	16	15	11	9	6
Female	13	12	12	10	12

three subjects (two males and one female) included a definite indication of their access to dialysis and one male and one female drew themselves attached to the machine.

Summary of Findings

In this study of 29 hemodialysis patients, significant relationship was found in their body image scores and compliance to their therapeutic regimen scores. Therefore, the null hypothesis that there is no relationship between compliance to the prescribed therapeutic regimen score by the ESRD patient and his body image score was rejected. A positive relationship was found between compliance and body image.

No significant relationship was found between the sample group's body image score and their compliance with

potassium restrictions, fluid restrictions, attendance at treatments, and intake of prescribed medication. However, a possible tendency to a relationship between compliance to attendance to hemodialysis treatments and the body image score was demonstrated.

No clear picture of compliance was found. A subject might comply with all or certain parts of his medical regimen. The parts of the regimen complied with did not follow a pattern except women tended to comply with weight control and the younger subjects tended to be less compliant.

Female subjects tended to have a positive body image with only 4 of the 13 having a negative body image score. Of the 16 male subjects, 9 scored a negative body image. Of eight male and female subjects 25 years of age or less, six had a negative body image score.

CHAPTER 5

SUMMARY OF THE STUDY

This study was an exploratory correlative survey of the body images of chronic hemodialysis patients and their compliance to their therapeutic regimen. These patients attended a selected free-standing dialysis center three times a week. There have been many studies concerned with the problems of compliance but conflicting reports have emerged. The problem of this study was to determine if there was any relationship between the body images of ESRD patients and their compliance to their therapeutic regimen.

Summary

Twenty-nine ESRD patients who attended a dialysis outpatient clinic were studied. The investigator administered the Draw-a-Person test and scored each test using Koppitz' emotional indicators. The objective compliance data were tabulated after being retrieved from the subjects' medical record at the center. The compliance score was then tabulated as 1 or 0, according to the previous definition of what constituted compliance or noncompliance. The body image scores and compliance

scores were then compared to determine if any relationship existed between the two variables.

Each score of compliance was then added to give a total compliance score. This total compliance score was compared with the body image score to determine if a relationship existed. The first null hypothesis was rejected. This hypothesis stated there is no relationship between the ESRD patient's body image score and his compliance score. The Pearson product moment coefficient showed a positive correlation (.003) between the body image score and compliance score at a significance level of .05.

The other four null hypotheses were supported by the Pearson product moment coefficient. The compliance aspect of attendance, potassium restriction, fluid restrictions, and prescribed medication was shown to have no relationship to body image.

Discussion of Findings

Several findings from the analysis of data appeared relevant to the study purpose of establishing if a relationship exists between a hemodialysis client's compliance to his medical regimen and his body image. That life dependent on a machine may have a negative

relationship with some patients' body image as cited in the literature (Abram, 1969, 1970; Foy, 1970; LeFebvre et al., 1972; Kalman, 1979) was supported by this study as portrayed by the negative body image scores of 13 clients. Also substantiated were the many studies reviewed by Sackett and Hayes (1976) that found noncompliance in all types of regimens and the determinates of compliance still unclear.

Just as Cummings (1970) found 30 dialysis patients not usually harboring feelings of deep self-abasement or worthlessness, this study found 55.3% of the clients with a positive body image. In contrast, to Foy (1970), who found 6 out of 16 patients incorporating a dialysis machine into their body image, this study found only 2 patients from a sample of 29 drawing the machine as part of their bodies.

This study found only three clients incorporating their fistulas in their body image. Nassen (1970), in a study of the effects of the arterial-venous shunt on client's body image, identified three patterns of behavior ranging from intense preoccupation to complete denial. The small number (3) in which the fistula appeared in the drawing and complete absences in the majority (26) would support this part of the denial aspects of Nassen's

study. However, the conclusion that the more dependent and ambivalent the relationship between the client's self-concept and body image, the more difficult will be his task resolving the loss of body image was not fully supported as lack of any indication of the fistulas was noted on clients with both positive and negative images. In this study, no conclusions could be drawn as to the cause of these omissions-denial or passive acceptance and/or lack of concern for the shunt.

This study found clients were compliant to all, part, or none of their regimen as did most of the studies reviewed. Proccia (1978) and De-Nour (1973) found 50-65% of dialysis patients abusing their diet as did this study. Hayes (1976) found a new habit such as taking on oral medication met with greater compliance than altering an old habit such a over-eating or drinking. This study also found greater compliance with a new habit, attending dialysis treatment, but less compliance with taking medication and altering drinking habits.

Unlike Hayes (1976) and Marston (1970), who found sex as having no effect on compliance and Davis (1971) who stated females are more likely to default than males and older people less likely to follow doctors' orders, this study found young males more noncompliant and more likely

to have a negative body image. Moreover, Blackwell (1973) found noncompliance more frequent in the extremes of age as this study found in the younger clients, but Blackwell supported the earlier studies of young females being less compliant as did Hartman and Becker (1978).

This study found a correlation coefficient of 0.0029 between body image and compliance, which supported the correlation coefficient 0.528 found by Billie (1977). Dropkin's (1979) study of compliance and De-Nour and Czaczkes (1972) supported these findings of a relationship between compliance and body image.

Lazarus (1976) theorized that each modality affected each other modality. Accepting this theory since a relationship could exist between body image and compliance, therapeutic intervention aimed at improving the body image could assist the patient to more adaptive behavior or compliance.

Conclusions and Implications

Based on the data analyzed in this study, the following conclusions are made.

1. There is an association between compliance and body image.

2. Compliance of a hemodialysis patient to his therapeutic regimen may be predicated by the positive or negative state of his body image.

Recommendations for Further Study

Recommendations for further studies include studies of body image and compliance factors. Such studies recommended are:

1. Replication of Wagner and Bye's (1979) study of 77 cancer patients using Body Image/Social Activity questions and hemodialysis patients.

2. Replication of this study of the relationship of body image and compliance studies using a larger population and sample.

APPENDIX A

TEXAS WOMAN'S UNIVERSITY
Box 23717, TWU Station
Denton, Texas 76204

1810 Inwood Road
Dallas Inwood Campus

HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Dorothy Griffin Center: Dallas
Address: 712 Cindy Date: 12/16/80
Cedar Hill, Texas 75104

Dear Ms. Griffin:

Your study entitled Body Image and Compliance of Hemodialysis

Patients

has been reviewed by a committee of the Human Subjects Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education, and Welfare regulations typically require that signatures indicating informed consent be obtained from all human subjects in your studies. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to DHEW regulations, another review by the Committee is required if your project changes.

Any special provisions pertaining to your study are noted below:

Add to informed consent form: No medical service or compensation is provided to subjects by the University as a result of injury from participation in research.

Add to informed consent form: I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

The filing of signatures of subjects with the Human Subjects
Review Committee is not required.

 x Other: 1. On consent form itemize specific data to be collected
Changes: from patient's record.
 2. Describe risks under 3a. on consent form - reword item #2
 No special provisions apply.

on application so as not to relieve
yourself of responsibility.

Risks are:

- a. possible improper release of data.
- b. fatigue related to procedure.
- c. concern as to quality or continuation of health care if non-compliant to research.

Then indicate how you will respond to each potential
risk to attempt to prevent it.

Sincerely,

Estelle D. Kurtz
Chairman, Human Subjects
Review Committee

at Dallas

PK/sml/3/7/80

APPENDIX B

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE MIDCITIES DIALYSIS CENTER

GRANTS TO DOROTHY GRIFFIN

a student enrolled in a program of nursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

Relationship of body image to compliance with
therapeutic regimen.

The conditions mutually agreed upon are as follows:

1. The agency (may) (~~may not~~) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (~~may not~~) be identified in the final report.
3. The agency (wants) (~~does not want~~) a conference with the student when the report is completed.
4. The agency is (willing) (~~unwilling~~) to allow the completed report to be circulated through interlibrary loan.
5. Other _____

Date: 3/15/61

P. Vernon Gammie, D.D.
Signature of Agency Personnel

Dorothy Griffin
Signature of Student

Jane Dawson
Signature of Faculty Advisor

APPENDIX C

CONSENT FORM
TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

Consent to Act as a Subject for Research and Investigation:

The following information is to be read to or read by the subject. One copy of this form, signed and witnessed, must be given to each subject. A second copy must be retained by the investigator for filing with the Chairman of the Human Subjects' Review Committee. A third copy may be made for the investigator's files.

1. I hereby authorize Dorothy Griffin to perform the following procedure or investigation.

This is a study to determine if a relationship exists between compliance with a medical regimen and body image. You will be asked to draw a picture of yourself. Artistic ability does not affect the outcome. Draw your image of yourself.

Please follow the directions written on the instrument. To maintain anonymity, your name will not be on any of these instruments. They will be coded for identification purposes as will the data I collect from your chart. The data collected from your chart will include (a) the last 3-months laboratory values of your serum potassium and phosphorus, (b) the weekly interdialytic weight gain for the last 3 months, (c) the weekly attendance hours for the last 3 months, and (d) your age and sex. This code list will be used only for this research and destroyed after the study is completed.

2. The procedure or investigation listed in Paragraph 1 has been explained to me by Dorothy Griffin.
3. (a) I understand that the procedures or investigations described in Paragraph 1 involve the following possible risks or discomforts:

Although measures have been taken to properly execute the process of data, an improper release of data may occur.

Risks and steps to prevent them:

- (1) Possible improper release of data could occur--all measures will be taken to properly execute the processing of data.
- (2) Fatigue related to procedure--the procedure will be done on your normally-scheduled dialysis days while you are waiting to be placed on the dialysis machine to prevent fatigue and may be rescheduled if you feel unable to participate on any given day.
- (3) Concern as to quality or continuation of health care if noncompliant to research--at no time will the names of the participants who are compliant or noncompliant be used. Only code numbers will be used in all tabulations of information.

- (b) I understand that the procedures and investigations described in Paragraph 1 have the following potential benefits to myself and/or others.

To make a contribution to research by evaluating the relationship of compliance and body image.

- (c) I understand that--No medical service or compensation is provided to subjects by the university as a result of injury from participation in research.
4. An offer to answer all of my questions regarding the study has been made. If alternative procedures are more advantageous to me, they have been explained. I understand that I may terminate my participation in the study at any time.

Subject's Signature

Date

APPENDIX D

ORAL PRESENTATION

I am conducting a research study in connection with my graduate work at Texas Woman's University. This study will seek to determine if there is a relationship between your body image (how you see yourself) and how you follow your doctor's advice on medications, attendance to treatments, and fluid and diet restrictions. By doing this study it is hoped that nurses' information will be increased. An increase in our knowledge can lead to improved care for you.

This study is not connected with my work at this center and in no way will influence your care here regardless of your decision to participate or not. You may withdraw at any time if you wish to.

If you decide to participate, I will ask you to draw a picture. Artistic ability has no bearing on the outcome of the study. I will also need permission to use information from your medical record (chart). The records will be examined in private in a conference room.

There is no place on the picture of information tally sheet for your name. Each one is coded to facilitate tallying data. This is to guarantee confidentiality. The code sheet will be used by me and destroyed after the study is finished. The results of this study will be made

known to any participant who desires to receive such information.

APPENDIX E

APPENDIX F

BODY IMAGE SCORE SHEET

Place a check mark beside the items which are judged to be present in the drawing.

Quality Signs

- ☐ 1. Poor integration of parts--one or more parts not joined to rest of figure.
- ☐ 2. Shading of face or part of it--includes freckles, deliberate shading (skin color not scored).
- ☐ 3. Shading body and/or limbs.
- ☐ 4. Shading of hands or necks.
- ☐ 5. Gross symmetry of limbs--one arm or leg differs markedly in shape.
- ☐ 6. Figure slanting by 15 degrees or more--vertical to perpendicular axis.
- ☐ 7. Tiny figure (2 inches or less in height).
- ☐ 8. Big figure (9 inches or more in height).
- ☐ 9. Transparencies--involving major portions of body or limbs.

Special Features

- ☐ 1. Tiny head--1/10 of total height of figure.
- ☐ 2. Crossed eyes--both eyes turn in or out.
- ☐ 3. Teeth.
- ☐ 4. Short arms--not long enough to reach waistline.
- ☐ 5. Long arms--long enough to reach below knee.

- ___ 6. Arms clinging to side of body.
- ___ 7. Big hands--as big or bigger than size of face.
- ___ 8. Hands cut off--arms with neither hands nor fingers.
- ___ 9. Legs pressed together--no space in between, in profile, only one leg.
- ___ 10. Genitals--external genitalia.
- ___ 11. Monster or grotesque figure--deliberate, non-human, degraded figure.
- ___ 12. Three or more figures spontaneously drawn.
- ___ 13. Clouds, rain, or snow.

Omissions

- ___ 1. Eyes--complete absence of eyes, closed or vacant eyes not scored.
- ___ 2. Nose.
- ___ 3. Mouth.
- ___ 4. Body.
- ___ 5. Legs.
- ___ 6. Feet.
- ___ 7. Neck.

Total Score: _____ Subject # _____

Used by permission of E. Koppitz, Psychological evaluation of children's human figure drawings, New York: Grune & Stratton, 1968, pp. 331-333.

APPENDIX G

Dorothy Griffin
712 Cindy
Cedar Hill, Tex. 75104

September 7, 1968

Grune
Grune and Stratton, Inc.
111 Fifth Avenue
New York, New York 10003

Dear Sirs:

I am a graduate student at Texas Woman's University, Dallas, Texas presently writing my thesis. My thesis title will be "The Relationship of Compliance and Body Image." In order to measure the subjects body I request permission to use the Body Image Score Sheet developed by Konnitz after obtaining her permission. This score sheet appears on page 331-33 of Psychological Evaluation of Children's Human Figure Drawings in 1968.

Sincerely,

Dorothy Griffin, R.H., B.S.
Dorothy Griffin

Please pardon the informality
but to speed our reply we have
answered on your own letter.

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Permission is granted per the
attached conditions.

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APPENDIX H

Elizabeth M. Koppitz, Ph. D.
R. F. D. 1, Box 200, Stanwood
Mount Kisco, New York 10549

October 4, 1980

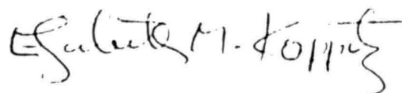
Dorothy M. Griffin, R.N., B.S.
712 Cindy
Cedar Hill, Texas 75104

Dear Ms. Griffin:

This is in response to your letter of September 26, 1980. You have my permission to use the "Body Image Scoring Sheets" from my book "Psychological Evaluation of Children's Human Figure Drawings" (1968, p. 331 - 337) in your thesis. I am much interested in your study, and would appreciate very much if you would send me an abstract or summary of your study after it has been completed.

Best wishes for your study.

Sincerely



Elizabeth M. Koppitz

APPENDIX I

DEFINITIONS OF EMOTIONAL INDICATORS

Quality Signs

1. Poor integration of parts: one or more parts not joined to rest of figure, part only connected by a single line, or barely touching.
2. Shading of face: deliberate shading of whole face or part of it, including "freckles," "measles," etc., an even, light shading of face and hands to represent skin color is not scored.
3. Shading of body and/or limbs.
4. Shading of hands and/or neck.
5. Gross asymmetry of limbs: one arm or leg differs markedly in shape from the other arm or leg. This item is not scored if arms or legs are similar in shape but just a bit uneven in size.
7. Tiny figure: figure two inches or less in height.
8. Big figure: figure nine inches or more in height.
9. Transparencies: transparencies involving major portions of body or limbs. Single line or lines of arms crossing body not scored.

Special Features

10. Tiny head: height of head less than one-tenth of total figure.
11. Crossed eyes: both eyes turned in or turned out; sideway glance of eyes not scored.
12. Teeth: Any representation of one or more teeth.
13. Short arms: short stubs for arms, arms not long enough to reach waistline.
14. Long arms: arms excessively long, arms long enough to reach below knee or where knee should be.

15. Arms cling to body: no space between body and arms.
16. Big hands: hands as big or bigger than face of figure.
17. Hands cut off: arms with neither hands nor fingers; hands hidden behind back of figure or in pocket not scored.
18. Legs pressed together: both legs touch with no space in between, in profile drawings only one leg is shown.
19. Genitals: realistic or unmistakably symbolic representation of genitals.
20. Monster or grotesque figure: figure representing nonhuman, degraded or ridiculous person; the grotesqueness of figure must be deliberate on part of the subject and not the result of immaturity or lack of drawing skill.
21. Three or more figures spontaneously drawn: several figures shown who are not interrelated or engaged in meaningful activity: repeated drawing of figures when only "a" figure was requested.
22. Clouds: any representing of clouds, rain, snow or flying birds.
23. No eyes: complete absence of eyes; closed eyes or vacant circles for eyes are not scored.
24. No nose.
25. No mouth.
26. No body.
27. No arms.
28. No legs.
29. No feet.
30. No neck.

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