Chapter - I

An Overview
A Study on Social Support in
Terminal Renal Failure Due to Diabetes

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An Overview

I. Introduction

Perfect health is an asset to mankind. Health is defined as the state of complete physical, mental and social well being and not merely the absence of disease (or) infirmity (World Health Organization). Very rarely we find people with perfect health. It is very common to find people suffering from illness, disease and health disorder. Some are chronic and some are acute problems from which they may partially or fully recover by taking proper medication.

The period of illness (or) disease, disorder is a very trying period for patients. They need more self-confidence, and the support and understanding during their illness from the family, from the people around them, from the society and from the organized agencies like hospitals, insurance companies which is very important from the curative (or) supportive aspect. Different types of such support become important, especially when the health disorder requires regular dietary habits both at home and work place, constant visits to the physician at the hospital and also financial capability for the medical expenditure.

Among major disease (or) health disorders that comes across on a large scale, are cardiac disease, multiple sclerosis, parkinson’s disease, stroke, cancer, arthritis, severe lung disease and diabetes. Negligence to identify causes on the part of individuals can cause some of these disorders. However all the disorders except diabetes are not due to dietary schedule. Among health
disorders where dietary aspect becomes the cause as well as the remedy, diabetes takes the prime place. In India with development there has been rapid change in food habits. This is more evident in urban areas where lifestyles are also changing. Preference for jobs with sedentary activities, preference for fast food are some reasons. In spite of increase in income and knowledge about food and nutrients, there is no proper planning of food consumed by the family. Hence there has been an increase in diabetes among children as well as adults.

Among the various complications of diabetes, Terminal Renal Failure is the most critical where the kidneys fail to function. This requires dietary modifications, proper medications, treatment like hemodialysis, or peritoneal dialysis, and renal transplantation. This is the stage where there is heavy occurrence of expenditure as well as the need for care by the people around the patients. In short, all aspects of social support are required in Terminal Renal Failure due to diabetes. The focus of present study is on “A Study on Social Support in Terminal Renal Failure due to Diabetes”.

Diabetes is an abnormal blood glucose level health disorder which causes many functional and structural derangements leading to permanent damages to some target organs of the body. One such important structure is kidney, which eliminates the waste products and extra water and salt in the form of urine. When this is affected due to diabetes, it is called diabetic kidney disease. The disease goes through five important stages, and the last stage is called end stage renal disease. End stage renal disease is not the end of life. The affected person is still living and he or she is capable of living longer if corrective management is properly adopted. This is because only the organ damage of kidney has occurred but patient is still surviving.

This study aims to identify the social support involved in end stage renal disease and how the sociological interactions could help in delivering the needed health care co-operation for,
The patient
The family
The relatives
Friends and neighbors
Health care team
Non-Governmental Organizations (NGO).

II. Diabetes Mellitus – Definition

Diabetes Mellitus has Greek and Latin roots that means “to siphon” and “Sweet”. “Diabetes Mellitus (Belfore. F, 2001) is a disorder resulting from genetic predisposition, and environmental factors characterized by alterations in the metabolism of carbohydrates, fat and protein. It is characterized by a level of glucose in the blood that is above normal much or most of the time. Diabetes develops due to our body’s inability to make appropriate use of the foods we eat as a result of insufficient insulin, or ineffective action of insulin. (Leo, P.Krall, 1978)

Wilfred G.Oakely says the “Man may be the captain of his fate, but he is also the victim of his blood sugar”.

Prevalence of Diabetes

It is stated that India has the largest number of diabetes patients exceeding 3.3 crores, i.e. one out of four diabetic patients in the world happens to be an Indian. In India 2.1 percent of urban population are suffering due to diabetes in contrast to 1.5 percent rural population.

The prevalence of diabetes world wide is reaching epidemic proportions. Currently there are more than 150 million (300 million people by 2025) in large part because of increased obesity and sedentary lifestyles in both adult and children. There is adequate amount of evidence to reveal that the incidence of diabetes is still increasing.
Symptoms of Diabetes

Diabetes can be identified by the following symptoms. The Diabetic individual may experience all or some of the symptoms. They are:

1. Frequent Urination
2. Excessive Thirst
3. Excessive Hunger
4. Excessive Tiredness
5. Weight Loss
6. Blurred Vision
7. Numbness (or) Tingling in feet
8. Slow Healing Cuts
9. Dry and Itchy Skin.

Classification of Diabetes

An International committee has recommended the usage of the terms type 1 and type 2 to distinguish the two types of diabetes. Type 1 diabetes occurs due to beta cell destruction by auto immune process. Type 2 diabetes is a more prevalent form and results from ineffective action or due to insulin resistance with a defect in compensatory insulin secretion. Type 1 diabetic patients are more prone to diabetic ketoacidosis. Exogenous insulin is a must to get a good glycemic control, to prevent diabetic ketoacidosis and sustain life. Exogenous insulin may be used if necessary for treating Type 2 hyperglycemic patients.

Causes of Diabetes

The main causes for diabetes are the following:

- Heredity
- Auto antibodies
- Viruses
- Age
• Obesity and lifestyle
• Drugs and medications (Steroids)
• Illness
• Hormones
• Stress
• Diet.

**Diabetic Complications**

Until the advent of insulin treatment, a young diabetic was fortunate to survive two years after the time of diagnosis. For the last 50 years, although the prognosis has been far more favourable, the debilitating complications of diabetes have become a major threat to both quality and length of life for a diabetic. These complications, or sequelae, are a heterogeneous group of clinical disorders which can affect the
• Vascular System (Microangiopathy and macroangiopathy)
• The Retina (Retinopathy)
• The Kidney (Nephropathy)
• The Peripheral Nervous System (Neuropathy)
• The Skin (Pruritis and other infection)

**Cardiovascular Disease**

There are several kinds of cardiovascular diseases, and they are all due to problems in how the heart pumps blood or how blood circulates throughout the body. Most of the cardiovascular complications related to diabetes have to do with a blockage or slowdown in blood flowing throughout the body. Diabetes can change chemical makeup of some of the substances found in the blood, and this can cause the openings in blood vessels to narrow or to clog up completely. This is called atherosclerosis, or hardening of the arteries, and diabetes seems to speed it up.
Retinopathy

One of the common complications of diabetes is retinopathy, a disease of the retina, the light-sensing region of the inner eye. Retinopathy is caused by damage to the blood vessels that supply blood to the retina. Retinopathy is more common in people with type 1 diabetes, but people who have had type 2 diabetes for many years can also develop it. There are two major forms of retinopathy. In one type, called non-proliferative (or background) retinopathy, blood vessels can close off or weaken. When this happens, they leak blood, fluid, and fat into the eye. Although this can lead to blurred vision, it does not cause blindness, unless there is leakage in the macula, the area of the retina near the optic nerve. Non proliferative retinopathy can progress to a more serious, although less common form of eye disease called proliferative retinopathy. This occurs when new blood vessels sprout, or proliferate in the retina. Glucoma or high pressure within the eye, occurs more often in people with diabetes. Retinopathy can also cause swelling of the macula of the eye. Because the macula is the central portion of the retina that allows seeing fine detail, when it swells, vision can be impaired and blindness can result. This condition is known as macular oedema.

Nephropathy

The kidneys are among the least appreciated and most abused organs of the body. The urinary tract consists of two kidneys, one on each side of the backbones. The kidneys have the most important function. The end products of protein metabolism are nitrogen substances, which are removed by the kidneys and eliminated. The urinary tract often becomes infected in people with diabetes, particularly in those with poor diabetic control. Severe kidney damage is more common in people with type 1 diabetes than in those with type 2. However, kidney damage can also result from high blood pressure, and many people with type 2 diabetes also have hypertension. Years of high blood
pressure can damage the delicate filters in the kidneys, leading to less efficient removal of waste products from the blood.

There are three cardinal functional changes which characterize the natural history of diabetic nephropathy. They are
1. Changes in glomerular filtration rate (GFR)
2. Proteinuria and albuminuria
3. Changes in arterial pressure.

Stages in Diabetic Nephropathy
There are five stages in diabetic nephropathy

Stage 1 : Stage of hyperfunction and hypertrophy
This stage is characterized by large kidneys and glomerular hyperfiltration and hypertrophy. The basement membrane mesangium is normal. The glomerular filtration rate is >150ml/min with normal blood pressure. The urinary albumin excretion may be increased.

Stage 2 : Silent Stage
In the silent stage the blood pressure and urinary albumin excretion (UAE) are normal. But structural lesions like increased basement membrane thickening and mesangial expansion may be present. This situation may last for years. In periods of metabolic stress or during exercise, there is rise in albumin excretion rate.

Stage 3 : Stage of incipient diabetic nephropathy
The patient in this stage is at risk to develop overt nephropathy if left untreated. There is persistent micro albuminuria and systemic hypertension.

Stage 4 : Stage of overt diabetic nephropathy
This stage is characterized by proteinuria, hypertension and a fall in glomerular filtration rate.
Stage 5: Stage of End Stage Renal Disease

End Stage renal failure is characterized by uremia, with generalized nephron closure and low glomerular filtration rate.

Neuropathy

Diabetes usually doesn’t impair the brain and spinal cord (Central Nervous System). But the nerves in the rest of the nervous system can get damaged. They may be unable to send message, send them at wrong times, or send them too slowly. Because the nerves send signals to so many places in our body, nerve damage can cause a range of effects. Neuropathy is more likely to affect people who have diabetes for a long time or whose glucose control is poor.

Infections

Having too much glucose in the blood can foul up many of the functions of blood, including the immune system. Having high blood glucose levels can put the patient at greater risk for infections. An excess of glucose makes the immune cells less effective. This can keep them from reaching and killing their targets, the invading microorganisms that cause infection. To make matters worse, some of the invading pathogens feed on the extra glucose in the blood making infection even more likely. People with diabetes tend to have more infections everywhere in the mouth and gums, lungs, skin, feet and genital areas and in the incision areas after major surgery. Maji and Mukherjee (1995) stated that infection is a major cause of morbidity associated with diabetes. Patients with diabetes who develop ketoacidosis have a highest incidence of life threatening infections. Many patients during an attack of ketoacidosis are likely to develop several bacterial or fungal infections particularly mucormycosis.
Diabetes and Pregnancy

In addition, pregnant diabetic women are at greater risk of foetal loss or malformation than non-diabetic women, and babies born to diabetic mothers are often larger than those born to non-diabetics.

III. Terminal Renal Failure

Normal Kidneys and Their Function

The kidneys are a pair of bean-shaped organs that lie on either side of the spine in the lower middle of the back. Each weighs about ¼ pound and contains approximately one million filtering units called nephrons. Each nephron is made of a glomerulus and a tubule. The glomerulus is a miniature filtering or sieving device while the tube is tiny tube like structure attached to the glomerulus.

The kidneys are connected to the urinary bladder by tubes called ureters. Urine is stored in the urinary bladder until the bladder is emptied by urinating. The bladder is connected to the outside of the body by another tubule like structure called the urethra.

The main function of the kidneys is to remove waste products and excess water from the blood. The kidneys process about 200 liters of blood everyday and produce about two liters of urine. The waste products are generated from normal metabolic processes including the breakdown of active tissue, ingested foods, and other substances. The kidneys allow consumption of a variety of foods, drugs, vitamins and supplements, additives, and excess fluids without worry that toxic by-products will build up to harmful levels. The kidney also plays a major role in regulating levels of various minerals such as calcium, sodium and potassium in the blood.
1. As the first step in filtration, blood is delivered into the glomeruli by microscopic leaky blood vessels called capillaries. Here, blood is filtered of waste products and fluid while red blood cells, proteins, and large molecules are retained, in the capillaries. In addition to wastes, some useful substances are also filtered out. The filtrate collects in a sac called Bowman’s capsule are also filtered out.

2. The tubules are the next step in the filtration process. The tubules are lined with highly functional cells which process the filtrate, reabsorbing water and chemicals useful to the body while secreting some additional waste products into the tubule

The kidneys also produce certain hormones that have important functions, in the body, including the following:

- Active form of vitamin D (calcitriol or 1, 25 dihydroxy-vitamin D), which regulates absorption of calcium and phosphorous from foods, promoting formation of strong bone.
- Erythropoietin (EPO), which stimulates the bone marrow to produce red blood cells.
- Renin, which regulates blood volume and blood pressure.

Terminal Renal Failure - Definition

“Chronic renal failure is defined (Murry Longmore, 2002) as the irreversible substantial, long-standing loss of renal function”. About 30% of type 2 diabetics and most type 1 diabetics will develop significant renal disease, and often they are terminating as End Stage Renal Disease (ESRD). End stage renal disease is the degree of renal failure that, without renal replacement therapy would result in death.
Symptoms and signs of chronic renal failure

- Anaemia : Pallor, Lethargy, Breathlessness on exercise, at rest or lying down
- Platelet abnormality : Epistaxis, Bruising
- Skin : Pruritus, Pigmentation
- Gastrointestinal Tract : Anorexia, Nausea, Vomiting, Diarrhoea
- Endocrine/Gonads : Amenorrhea, Erectile dysfunction, Infertility
- Central Nervous System : Confusion, Coma, Fits (in severe uremia)
- Cardiovascular System : Uremic Pericarditis, Hypertension, Peripheral Vascular Disease, Heart Failure
- Renal : Nocturia, Polyuria, Salt and water retention causing oedema
- Renal Osteodystrophy : Osteomalacia, Muscle weakness, Bone pain, Hyperparathyroidism, Osteosclerosis.

Prevalence of End Stage Renal Disease

Like other chronic illness, end stage renal disease poses a wide range of problems for patients and their family members. These problems include pain, hospitalization, changes in lifestyle and work, physical disabilities and threatened survival. The prevalence of diabetes in the United States is 1.6% of the population, 8% of whom have the diagnosis established by the time they are 25 years of age. Approximately 3200 diabetics reach end stage renal disease annually in the USA and represent 20-25% of all new end stage renal disease
patients. Renal failure is responsible for death of 50% of (Type1) juvenile onset diabetics and 8% of all diabetics.

Chronic Kidney Disease (CKD) is a world wide health problem. According to World Health Organization Global Burden of Disease project, disease of the kidney and urinary tract contribute to global burden with approximately 850,000 deaths every year and 15,010,107 disability adjusted life years. CKD 12th leading cause of death and 17th cause of disability.

Management protocol for End Stage Renal Disease
There are several aspects in the management of end stage renal disease.

A) Conservative Management
B) Replacement of Renal Function.

A) Conservative management of chronic renal failure includes

a) Identification of reversible factors and correcting it
b) Slowdown the progression of the end stage renal disease.
c) Non dialytic treatment - Treating the complications of the end stage renal disease.

A) a) Identification of reversible causes

The most important of the reversible factors in patients with chronic renal failure, no matter what the level of renal function, are as follows,

1. Obstruction within the urinary passage

Prostatic enlargement or renal stones should always be considered.

2. Analgesic abuse

A careful history should always be taken about analgesic abuse and if present then patient must be advised that continued analgesics, particularly those containing phenacetin, are harmful.
3. Potentially nephrotoxic drugs

Other potentially nephrotoxic drugs should be considered both as a possible cause and as an aggravating factor in patients with renal failure.

4. Dehydration and hyponatraemia

Correction of any water or sodium deficit is extremely important since dehydration and hyponatraemia will further prejudice renal function, often severely. Dehydration may result from intercurrent diarrhea and vomiting, from excessive use of diuretics, during any intercurrent illness, particularly if it has an infective basis; or during hospital admissions for surgery if existence, of chronic renal failure is not appreciated. Sodium depletion will commonly occur in association with water depletion, but on some occasions the patient may be sodium depleted even in the presence of excess water. Pronounced degrees of salt and water deficiency will need temporary intravenous replacement treatment; lesser degrees may be corrected by increasing oral fluid intake and by giving extra salt-for instance, as slow sodium tablets.

5. Recurrent urinary infection

Active urinary infection may be present in patients with chronic pyelonephritis, polycystic kidney disease, and analgesic nephropathy and should be treated after determining the drug sensitivity of the organisms, remembering the need to avoid potentially nephrotoxic drugs and to reduce the dosage of drugs that are largely excreted by the kidneys.

A) b) Slowdown in the progression of chronic renal failure

Unless dialysis or renal transplantation is provided, chronic renal failure is eventually fatal. Once the plasma creatinine exceeds about 300umol/there is usually progressive deterioration in renal function irrespective of etiology. The rate of deterioration is variable between patients, but is relatively constant for an individual patient. A plot of the reciprocal of the plasma creatinine concentration against time allows the physician to predict when dialysis will be
required, and to detect any unexpected worsening of renal failure. Changes in the slope may reflect changes in treatment.

1. Optimal Control of Blood Glucose

More intensive control of blood glucose appears to delay the development of renal disease. The Diabetic Control and Complication Trail (DCCT) conducted by National Institute of Health (National Institute Health), USA from 1983 to 1993, involved 441 participants who had type 1 diabetes. Researchers found a 50% decrease in both development and progression of early diabetic kidney disease (stage 1 and 2) in participants who followed an intensive regimen for controlling blood glucose levels.

2. Control of Blood Pressure

In many types of renal disease, but particularly in disease affecting glomeruli, control of blood pressure may retard the rate of deterioration of glomerular filtration rate. This has been proved for diabetic nephropathy, but is probably traced for other disease as well, particularly those associated with heavy proteinuria. No threshold for this effect have been found. Reduction of any level of blood pressure is beneficial.

Various target blood pressure have been suggested, 130/85 mmHg for chronic renal failure alone, lowered to 120/75 mmHg for those with proteinuria greater 1g/day. For older patients, a more practical target might be a maximum blood pressure equal to the 75th centile for their age. The very high incidence of left ventricular hypertrophy, heart failure and occlusive vascular disease in patients with longstanding renal disease also justifies vigorous efforts to control blood pressure.

3. Aggressive Treatment of Dyslipidemia

Hypercholesterolemia is almost universal in patients with significant proteinuria, and increased triglyceride levels are also common in patients with
chronic renal failure, further influencing the development of chronic renal disease. It is only the introduction of HMG CoA reductase inhibitors that has made it possible to achieve substantial reduction in lipids in chronic renal disease, but there have been no long term studies in this group of patients. However, many believe that the high incidence of vascular disease in chronic renal failure justifies the treatment of these abnormalities in advance of proof from controlled trails.

4. Diet

The last but not the least, progressive renal disease can be retarded by various manipulations of diet, most notably by restriction of dietary protein. In human studies results have been clear-cut; low-protein diets are difficult to adhere to and carry a risk of inducing malnutrition. This remains a controversial area but, for most patients living in areas where renal replacement therapy is available, severe protein restrictions are not regularly recommended. Moderate protein restriction should be accompanied by adequate intake of calories to prevent malnutrition. Anorexia and muscle loss may indicate a need to commence dialysis treatment.

A) c) Replacement of Renal Function

The ability to replace the function of the kidney by artificial means has been available to physicians for 40 years. The excretory function of the kidney can be partially replaced by dialysis (or) haemofiltration techniques. These treatment methods can be used in the management of chronic renal failure. They do not replace endocrine and metabolic functions, which can only be achieved by renal transplantation. Best results in patients with chronic renal failure are obtained by an integrated management programme, using the most appropriate form of therapy-hemodialysis, continuous ambulatory peritoneal dialysis or renal transplantation-depending on the clinical circumstances.
Dialysis Access

A vascular access is required for hemodialysis so that blood can be moved through the dialysis filter at rapid speeds to allow clearing of the wastes, toxins, and excess fluid. There are three different types of vascular access; arteriovenous fistula (AVF), arteriovenous graft and central venous catheters.

a) Arteriovenous fistula (AVF)

The preferred access for hemodialysis is an AVF, wherein an artery is directly joined to a vein. The vein takes two to four months to enlarge and mature before it can be used for dialysis. Once matured, two needles are placed into the vein for dialysis. One needle is used to draw blood and run through the dialysis machine. The second needle is to return the cleansed blood. AVFs are less likely to get infected or develop clots than any other types of dialysis access.

b) Arteriovenous graft

An arteriovenous graft is placed in those who have small veins or in whom a fistula has failed to develop. The graft is made of artificial material and the dialysis needles are inserted into the graft directly.

c) Central venous catheter

A catheter may be either temporary or permanent. These catheters are either placed in the neck or the groin into a large blood vessel. While these catheters provide an immediate access for dialysis, they are prone to infection and may also cause blood vessels to clot or narrow.

Peritoneal access (for peritoneal dialysis)

A catheter is implanted into the abdominal cavity (lined by the peritoneum) by a minor surgical procedure. This catheter is a thin tube made of a soft flexible material, usually silicone or polyurethane. The catheter usually
has one or two cuffs that help hold it in place. The tip of the catheter may be straight or coiled and has multiple holes to allow egress and return of fluid. Though the catheter can be used immediately after implantation, it is usually recommended to delay peritoneal dialysis for at least 2 weeks so as to allow healing and decrease the risk of developing leaks.

1. Hemodialysis

In chronic renal failure hemodialysis should be started when, despite adequate medical treatment, the patient has advanced renal failure, and before he (or) she develops serious complications. This often occurs with a plasma creatinine of 800-1000u mol/Lit. Vascular access is required; an arteriovenous fistula should be formed, usually in the forearm, when the serum creatinine is around 600u/lit, so that it has time to become established. Increased pressure in the veins leading from the fistula causes distension and thickening of the vessel wall (arterializations). Large-bore needles can then be inserted into the vein to provide access for each hemodialysis treatment. If this is not possible, plastic cannulae in central veins can be used for short-term access. Hemodialysis is usually carried out 3-5 hours three times weekly. Most patients notice a gradual improvement in symptoms during the first 6 weeks of treatment. Plasma urea and creatinine are lowered by each treatment but do not return to normal. Accepted standards of dialysis adequacy, which relate the clearance of urea to total body water, are adhered to in most units. Some patients are able to carry out their treatment at home. Many patients lead normal and active lives and patient survival for more than 20 years is common.

2. Peritoneal Dialysis

When kidney fail, waste products such as urea and creatinine build up in the blood. One way to remove these wastes is a process call peritoneal dialysis (PD). The walls of the abdominal cavity are lined with a membrane called the peritoneum. During PD a mixture of dextrose (sugar), salt and other minerals
dissolved in water, called dialysis solution, is placed in a person’s abdominal cavity through a catheter. The body’s peritoneal membrane enclosing the digestive organs allows waste products and extra body fluid to pass from the blood into the dialysis solution. These wastes then leave the body when the used solution is drained from the abdomen. Each cycle of draining and refilling is called an exchange. The time the solution remains in the abdomen between exchanges is called the dwell time. During this dwell time, some of the dextrose in the solution crosses the membrane and is absorbed by the body.

**Continuous Ambulatory Peritoneal Dialysis (CAPD)**

Continuous Ambulatory Peritoneal Dialysis is a form of long-term dialysis involving insertion of a permanent silastic catheter into the peritoneal cavity and 2 liters sterile, isotonic dialysis fluid are introduced and left in place for a period of approximately 6 hours. During this time, metabolic waste products diffuse from peritoneal capillaries into the dialysis fluid down a concentration gradient. The fluid is then drained and fresh dialysis fluid introduced. This cycle is repeated four times daily, during which time the patient is mobile and able to undertake normal daily activities. It is particularly useful in young children, in elderly patients with cardiovascular instability and in patients with diabetes mellitus. Its long-term use may be limited by episodes of bacterial peritonitis, but some patients have been treated successfully for more than 10 years. Recently automated peritoneal dialysis (APD) has come into use. This system uses a mechanical device to perform the fluid exchange during the night, leaving the patient free during the day.

**Continuous Cycler-assisted Peritoneal Dialysis (CCPD)**

CCPD uses a machine to fill and empty the abdomen three to five times during the night while the person sleeps. In the morning, the last fill remains in the abdomen with a dwell time that lasts the entire day. Sometimes one additional exchange is done in the mid afternoon to increase the amount of
waste removed and to prevent excessive absorption of fluid. The dialysis solution used for the long daytime dwell may have a higher concentration of dextrose.

3. Renal Transplantation

This offers the possibility of restoring normal kidney function and correcting all the metabolic abnormalities of chronic renal failure. Transplanted kidneys come from living related donor, living unrelated donors, or people who died of other causes (cadaveric donors). In people with type I diabetes, a combined kidney-pancreas transplant is often a better option. A person who needs a kidney transplant undergoes several tests to identify characteristics of his or her immune system. The recipient can accept only a kidney that comes from a donor who matches certain of his or her immunologic characteristics. The more similar the donor is in these characteristics, the greater the chance of long-term success of the transplant. Transplants from living related donor generally have the best result. ABO (blood group) compatibility between donor and recipient is essential, and it is usual to select donor kidneys on the basis of human leukocyte antigen (HLA) matching as this improves graft survival. Results of kidney transplantation have improved significantly in recent years. Three year graft survival is in the region of 88% while 3 years patient survival is approximately 90%.

Long term immunosuppressive therapy is required. Many therapeutic regimens have been used, but the most common involves a combination of prednisolone, cyclosporine A and azathioprine. Immunosuppression is associated with an increased incidence of infection, particularly opportunistic infections, and increased incidence of malignant neoplasms, especially of the skin. Approximately 50% of patients will have some skin malignancy by 15 years post-transplant. None the less transplantation does offer the best hope to complete rehabilitations and is the most cost effective of the treatment options for chronic renal failure.
However the complications of kidney failure in diabetic patient’s causes more medical expenditure, requiring more social support compare to other complications cited earlier.

IV. The Need for Social Support

According to the author (McKevitt, 1980) the health care support system is a ‘network of individuals and group who provide care and assistance—physical, medical, social, emotional and functional and who are called on in various degrees, particularly when an individual or family’s own resources are insufficient to cope with needs, problems, and/or crises. Support in the form of care and treatment, information and education, empathy, encouragement and reassurance, guidance and counseling and concrete resources is provided, based on a sensitivity to and an understanding of the individual’s/family’s total situation and of their special concerns and needs. Such a support system is shown below.

Figure – 1

- Health Care Team
- Community & Society
- Patient
- Family
- Social Groups
The physical and psychological comfort provided by other people in social support is beneficial in times of stress, and it is effective regardless of the kind of coping strategies that are used.

Social support has a definite beneficial effect. It is suggested that simply being with other people reduces anxiety. In addition, family and friends may help in solving problems. People sometimes seek compassion and sometimes seek advice. Both kinds of support have a positive effect on cardiovascular, endocrine, and immune systems. There is an additional source of help that is simple. This is the act of talking to someone. When a person experiences stress, telling others about their difficulties not only reduces negative feeling, but also reduces the incidence of health problems and talking seems to help whether it is to a relative, friend or therapist.

The presence of social support helps to ward off illness and enables one to recover from illness more quickly, but the most effective support is "invisible" possibly because awareness of receiving help is sometimes negative. Though a person facing stress may need support, awkward attempts to provide comfort can actually make things worse. Unhelpful support efforts include trying to minimize the problem, suggesting that the difficulty is the stressed person's fault, and simply bumbling efforts to help.

Support groups bring together people with similar problems to share emotional and moral support as well as particular information. Not everyone wants or needs such help but group support can be highly beneficial to many and may be worth exploring during any stage of patient's illness or treatment.

The complex inter-relationship between the patient and his or her total environment, therefore includes the multidisciplinary health care team, social group and the society at large.
Family

From the Dig. 1 it is evident that there are four aspects of social support. The first and foremost is the family, which includes the parents, spouse, siblings, children and other relatives who play a very important role in providing the support to the suffering individual. Though the families are not the health care providers, they are the primary care taker for patients with chronic illness, ranging from preparing special meals, for a family member with heart disease, in assisting with insulin administration for a diabetic, in running home dialysis for a renal failure patient. In addition families are usually the major sources of emotional and social support, someone to share the frustrations, discouragements, and despair of living with chronic illness.

Chronic illness affects all aspects of family life. Traditional familiar patterns of family life are changed forever, shared activities are given up, and family roles and responsibilities must often change. Most patients and their families cope well with the stress and demands of chronic illness, and tend to pull together and become closer. Some families may become too closer or enmeshed, by assuming too much responsibility and care for the patient, they may inhibit his or her autonomy and independence. Other families may pull apart under the stress of chronic illness and even disintegrate through divorce, institutionalization or death.

The spouses of chronically ill patients often have as much subjective distress as the patients themselves. It is easy for health care providers focused on the “patient” to overlook the spouse’s distress and do not attend to their physical emotional needs. The failure of health professionals to address the needs of family members as well as patients can lead to a downward cycle: the family becomes more distressed and less able to respond to the needs of the patient, who may then deteriorate physically and emotionally and put more stress and demands upon the family, leading finally to burnout of the family.
By addressing the needs and stresses of the family as well as the patient, the physician can help to promote the healthiest functioning of all concerned. This can be best done by establishing a partnership with the families and supporting them as co-providers of care.

**Health Care Team**

Next to family comes the health care team providing support for the patients by:

- The Doctors
- The Nurses
- Health Care Educators
- Specialists (The Dietitian, Physiotherapist, Speech Therapist)
- Social Worker.

All these groups play a very prominent role.

**The Doctors**

They are well trained in assessing and managing the biomedical aspects of the disease and monitoring the blood glucose control, monitoring the blood pressure level adjusting the medication accordingly and also identifying the emergencies and treating the complications. The major role is played by the doctor in clinical treatment aspect.

**The Nurse**

The nursing staff will be happy to explain the disease conditions including the causes, complications and it’s treatment, and answer any questions the patients may have. They carry out prescribed treatment and train, and help the patient to carry out regular medication. If the patient is on dialysis procedure, the staff in dialysis unit explains, and trains for peritoneal dialysis procedure. The other type of dialysis is hemodialysis which will be taken care
by the doctor and the nursing staff for “in centre dialysis”. Here the patient’s role is less compared with peritoneal dialysis.

**The Dietitian**

In Terminal Renal Failure due to Diabetes, the role of dietitian is significant. Dietitians will give a personal diet sheet according to the needs of the patients and the diet restrictions given by the nephrologist. Dietitian’s are available to discuss the patient’s diet with the patient and their family. They can also give many helpful suggestions.

**Social Worker**

The role of social worker partly falls in the health care team and partly in the support provided by the community. They are specially trained social workers based in the renal unit, who provide support and advice for patients and their family members in coping with all aspects of renal failure and day to day life. In many cases they will visit the patient at home prior to starting treatment in order to get to know the patient and their family better, and answer many questions that are raised by the patient and their relatives. The social workers accompany the patient and the family throughout the treatment.

**Community and Society**

The third element of social support system is the community and society. The Society provides social support through the employer, or department of employee. So also primary health care team and social worker and the local authority do provide some support. Local authorities like municipalities; corporation also provides free service in some countries. The government hospitals in larger cities provide free services for some of the major illness.

**The Employer**

The role of employer comes when medical benefits are provided as allowance or in kind to their employees as is often done by big firms.
Department of Employee

Department of employee gives them unemployment benefits if the person goes on leave for long period on account of some major illness. This instance explains social support provided by the community and society.

Social Groups

Finally comes the role of social group in providing the necessary support, which covers friends, neighbors, and other patients with the same condition, relatives of such patients, colleagues, classmates, and other contact such as members at church, temple, and synagogue. The social group offers a variety of emotional benefits. Simply by meeting others with similar health experiences and conditions, they may feel less isolated and gain a sense of belonging or fitting it. Frank discussion about their condition of disease can foster openness and increased understanding. Shared problem solving may help to find solutions or coping skills, and compassion and empathy can help the patient through a crisis. In addition the patients may feel better about themselves if they are able to offer support and help to others.

The aforesaid analysis clearly indicates the availability of wide network of social support mechanism to help the patients. The role of different units in the social support mechanism differs from country to country. In advanced countries the role of government agencies and the social worker is very important. But in developing countries the role of the family and neighbors tends to be more.

V. Objectives

1. To study the socio-demographic characteristic of the renal failure patients.
2. To find out the reaction of the patient and their family members on being aware of renal failure.
3. To find out the sources of knowledge about disease management.
4. To identify the causes for the defaults towards therapeutic management.
5. To find out the support extended by family members, health care team, colleagues, friends and neighbors to the End Stage Renal Disease Patients.

VI. Methodology

The researcher has selected Salem Gopi Hospitals Private Limited for an in-depth analysis based upon primary data. Therefore the hospital has been selected for collection of primary data. It is one of the popular and sophisticated hospitals which specialize mainly in Diabetes to treat patients with kidney disorder. At present they have 100 beds including 12 ICU and ICCU beds. They have doctors of various specialties to look after the patients as outpatients as well as in-patients.

This hospital is famous in conducting Diabetes/Blood Pressure awareness and detection camps. They have conducted more than 2000 camps. Their diet exhibition and diet counseling are one of the best in Tamil Nadu. They conduct everyday audio visual education to the diabetes patients and to their relatives.

All the cases of terminal renal failure who visited the hospital during this two year were contacted. Four of them were not interested in responding. Hence the researcher has to satisfy 104 respondents. Finally to make it a round figure 4 respondents who were contacted last was eliminated and thus a total of 100 sample were arrived. This study is based upon primary data collected from 100 patients during the period from 2004 January 2005 December (2 years).

VII. Research Analysis

The present study has been designed to cover the various aspects of social support in Terminal Renal Failure Due to Diabetes as follows:
Chapter I is an overview of the study which covers a general introduction on diabetes with special reference to Terminal Renal failure. It covers an analysis of different social support systems required in health disorder.

Chapter II gives a review of Literature which has helped the researcher to identify the research problem and to select the tools of analysis.

Chapter III provides a detailed account of major technical concepts used in the study.

Chapter IV gives the methodology for analysis and presentation of the research report.

Chapter V deals with the analysis of the primary data collected from 100 patients.

Chapter VI is by way of summary, findings and suggestions.