ASSESSESMENT OF THE QUALITY OF LIFE WITH PATIENT ON HEMODIALYSIS WITH END STAGE RENAL DISEASE IN ARAR, KSA

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ABSTRACT

Title: Quality of life of patients on hemodialysis with End Stage Renal Disease.
END STAGE RENAL DISEASE causes sudden changes in the daily lives of

patients, creates limitations to perform activities of daily life and creates a great impact on emotions and quality of life (QOL) of patients. Health-related quality of life (QOL) refers to the measure of a patient's functioning, well-being, and general health perception in each of three domains: physical, psychological, and social. Along with survival and other types of clinical outcomes, patient QOL is an important indicator of the effectiveness of the medical care they receive. QOL of patients with end-stage renal disease is influenced by the disease itself and by the type of replacement therapy.

Major Objectives of the study were:

i. To Assess the physical, psychological and social aspects of the quality of life of patients on hemodialysis with ESRD
ii. To compare the relation between the duration of Hemodialysis and quality of life
iii. To identify the problems these patients have and to recommend the techniques to improve the quality of life

Methodology:

A descriptive approach was used to assess the quality of life of patient on hemodialysis with ESRD in central hospital and ArAr medical northern towers from 12-02-2021 to 22-05-2021. Baseline clinical data were collected using structured questioner and WHO QOL BREF. if consisted of 26 sample friendly questions with maximum score being 5 and minimum being 1 that denotes high and low respectively. Observations and interview techniques were used to collect the data obtaining permissions from the hospital and consist of the patient by following ethical considerations. Frequency percentage and Pearson's correlation were and to assess the relationship between hemodialysis and quality of life of patient on hemodialysis.

Results

Analysis shows that nearly half of the participant’s quality of life was affected even though they are continuing with hemodialysis. Pain is the most common physical problem faced by them and they reported a high dependency on medications to cope up with the activities of daily living. Nearly half of the participants were enjoying their life and their leisure activities. Almost half of them were leading a safe satisfied life.

Conclusion - Renal rehabilitation aims to alleviate symptoms, maintain/ promote physical fitness and health reduces mental burdens and improve the quality of life. This is implemented through exercises therapy which has been shown to improve the physical, social and psychological attributes of quality of life.

CONTENTS

CHAPER 1

INTRODUCTION

1. 1 INTRODUCTION

"With a new day comes new strength and new thoughts"

(Eleanor Roosevelt)

Chronic kidney disease (CKD) encompasses a spectrum of different pathophysiologic processes associated with abnormal kidney function and a progressive decline in glomerular filtration rate (GFR). A systematic review and meta-analysis of observational studies estimating CKD prevalence in general populations worldwide found a consistent estimated global CKD prevalence of 11-13 %(Nethan R et al, 2016). There has been a marked rise in the prevalence and incidence of end stage chronic kidney disease (CKD) in Saudi Arabia over the last 3 decades. Positive impact of medical treatment on survival in hemodialysis patients helps long term maintenance of physiotherapy with the treatment and protection of physical gains. Follow up of patients during hemodialysis and through programs increasing clinical effectiveness by home-based programs can only be realized by patient follow-up record and electronic or face-to-face feedback from the patient and families the fact that the patients were young adults might require diversification or intensification of programs of the patients by the physiotherapist as much as clinical status allows in case they need more active life style in terms of work and social status.

The literature contains a growing number of studies analyzing different renal clinical problems. However, exercise evaluation and training protocols in hemodialysis patients could not be adequately defined. The research should give priority to physiotherapy approaches to address physical and functional improvement of hemodialysis patients to pursue their daily lives which can guide particularly clinicians. In addition, the fact that exercise approaches clarify effect mechanisms in parallel to pathophysiology will contribute to deciding on the need for exercise, preparing the content of exercise and clinical follow-up of patients doing exercise by the health professionals in nephrology particularly to physiotherapists. (S.Ufuk Yuvdalan,2012)

Quality of life (QOL) is an important parameter that needs to be considered when evaluating the experience and outcome of patients receiving healthcare. This is especially the case for patients with long term chronic diseases, since complete cure from their illness is often impossible (Macduff, 2000). There is an increasing interest in measuring QOL in both clinical trials and everyday clinical practice. In addition to mortality and morbidity as key indicators for performance, QOL has recognized as an important factor for evaluating the quality and outcome of healthcare for patients with chronic illnesses such as multiple sclerosis, asthma and chronic kidney failure. The acknowledgment that the burden of chronic kidney failure expand beyond its impact on the biological structure of the body is reflected in initiatives from the National Kidney Foundation in the United States of America (USA) to support efforts aimed at improving QOL in patients with kidney failure (K/DOQI, 2002).

1.2 NEED AND SIGNIFICANCE OF THE STUDY

ESRD has emerged as an important public health issue worldwide, because of the marked increase in its incidence and prevalence. Despite the great progress in diagnosis of end stage renal disease and the delivery of renal replacement therapy the number of patients with chronic renal failure is increasing both nationally, and internationally. ESRD is a significant problem in Saudi Arabia. In 1986, the prevalence of ESRD was 139 per million people. The number of patients receiving hemodialysis therapy in Saudi Arabia has increased by approximately 10 to 15 – fold since 1983, with an estimated annual increase of approximately 8.6%.

Quality of Life (QoL) is a consistent and powerful predictor that affects the out-come in end-stage renal disease (ESRD) patients on dialysis. This study was undertaken to identify the factors that might predict QoL scores among ESRD patients on hemodialysis (HD). The study was conducted at three HD units in Saudi Arabia from January 2007 to January 2008. The QoL scores revealed a decreasing trend with decreasing level of education; they were elevated among employed patients. Multiple linear regression analysis demonstrated that age, dialysis duration, and male sex were negative predictors of QoL score. We conclude from our study that QoL is reduced in all the health domains of HD patients. Older age, male gender, unemployment, and duration of dialysis adversely affected the QoL scores. Adequate management of some of these factors could influence patient outcomes. (Bayoumi M. et. All) 2013.

1.3 STATEMENT OF PROBLEM

To assess the quality of life of patientts on Hemodialysis with End stage renal disease in Arar, KSA

1.4 AIM OF THE STUDY

The aim of this study is to assess the quality of life of the patients who are on hemodialysis with end stage renal disease.

1.5 HYPOTHESIS

There is a direct relationship between hemodialysis and quality of life of patients with ESRD in Arar, KSA

1.6 OBJECTIVES

- To Assess the physical, psychological and social aspects of the quality of life of patients on hemodialysis with ESRD
- To compare the relation between the duration of Hemodialysis and quality of life
- To identify the problems these patients have and to recommend the techniques to improve the quality of life

1.7. BACKGROUND OF THE STUDY

1.7.1 END STAGE RENAL DISEASE End (ESRD)

End stage renal disease (ESRD) is the last stage (stage five) of chronic kidney disease (CKD). This means kidneys are only functioning at 10 to 15 percent of their normal capacity. Kidneys are important organs that contribute to your overall well-being. When kidney function is this low, they cannot effectively remove waste or excess fluid from your blood. Kidneys are also responsible for other functions that support the body, such as balancing electrolytes and producing certain hormones. When chronic kidney disease develops into ESRD, dialysis or a kidney transplant is necessary to stay alive. (Davita, 2020).

End stage renal disease (ESRD) is a devastating medical, social and economic problem in any community and needs dedicated supervision and health care. It is fatal unless treated properly. Despite the improvements in dialysis care, the mortality of patients with ESRD remains high. We retrospectively studied 242 patients with ESRD on regular hemodialysis (HD) at Gezira Hospital for Renal Diseases and Surgery, Sudan, from 1 January to 31 December 2008, to determine the mortality rate and causes of mortality. We found that the mortality rate was 7.44% per year and the leading cause of death was infections (45%) and cardiovascular (22%) diseases. (Elsharif ME, 2011)

Between 1993 and 2003 there was little improvement in first-year death rates in the ESRD population. Between 2003 and 2009, however, these rates fell more than 14 percent, while second-year death rates declined 16.5 percent. Month-by-month mortality rates in the first year of hemodialysis have shown similar improvements, overall and for deaths due to cardiovascular disease and infection. Progress has been made as well in mortality due to infection, and to a greater extent than seen with cardiovascular deaths. Mortality due to other causes, in contrast, has increased since 1999, a finding which requires further investigation. Still striking are the high rates of all-cause mortality in the early months of therapy, and the fact that mortality in the dialysis population remains ten times greater than among Medicare patients of similar age without kidney disease. In the prevalent population, mortality rates have declined nearly 25 percent over the last two decades, and 19 percent since 2000. (UNITED STATES RENAL DATA SYSTEM, 2007)

End-stage renal disease (ESRD), due to its high morbidity and mortality as well as social and financial implications, is a major public health problem. Outcome depends not only on different modalities of treatment like hemodialysis and peritoneal dialysis, but also on existing co-morbidities, age, duration on dialysis, supportive therapies and infection control strategies. Thus, a detailed study becomes necessary to improve health care delivery, provide medical care and to establish a geographical reference. The present study was undertaken to characterize the ESRD patients by their demographic and co-morbid conditions and relate this to the morbidity and mortality trends. The medical records of 110 ESRD patients seen over a five-year period (June 1995 to December 1999) in two tertiary-care hospitals in Riyadh, Saudi Arabia were studied retrospectively. There were 79 (64.5%) males and 31 (35.5%) females; their age ranged from 17 to 92 years (mean age 53.8 +/- 17.8 years). Diabetes was the commonest cause of ESRD seen in

26 (26.6%) followed by nephrosclerosis, unknown etiology, lupus nephritis, pyelonephritis and primary glomerulonephritis. Diabetes mellitus was the most prevalent co-morbidity seen during the study period and occurred in 65 patients (59%) followed by heart disease in 36 (32.7%), liver disease in 30 (27.3%), cerebrovascular accidents in 13 (11.8%) and neoplasm in 11 (10%). Seven (6.3%) patients only were smokers. (Al Wakeel JS, Mitwalli AH, 2013).

Stage 5 of CKD

An eGFR less than 15 means the kidneys are getting very close to failure or have completely failed. If your kidneys fail, waste builds up in your blood, which makes you very sick.

Some of the symptoms of kidney failure are:

- Itching
- Muscle cramps
- Feeling sick and throwing up
- Not feeling hungry
- Swelling in your hands and feet
- Back pain
- Urinating more or less than normal
- Trouble breathing
- Trouble sleeping

Once your kidneys have failed, you will need to start dialysis or have a kidney transplant to live.

- Preparing for dialysis: Dialysis helps clean your blood when your kidneys have failed. There are several things to think about, such as the type of dialysis, how to plan your treatments and how they will affect your daily life. Learn more about hemodialysis and peritoneal dialysis.

- Preparing for a transplant: A kidney transplant is a surgery to give you a healthy kidney from someone else's body. If you can find a living kidney donor, you may not need to start dialysis at all. It is possible to have a transplant when your kidneys are getting close to failure

ESRD has emerged as an important public health issue worldwide, because of the marked increase in its incidence and prevalence
ESRD has emerged as an important public health issue worldwide, because of the marked increase in its incidence and prevalence

Classification of chronic kidney disease using GFR and ACR categories

GFR and ACR categories and risk of adverse outcomes			ACR categories (mg/mmol), description and range		
			<3 Normal to mildly increased	3–30 Moderately increased	>30 Severely increased
			A1	A2	A3
GFR categories (ml/min/1.73m^2), description and range	≥90 Normal and high	G1	No CKD in the absence of markers of kidney damage		
	60–89 Mild reduction related to normal range for a young adult	G2			
	45–59 Mild–moderate reduction	G3a[1]			
	30–44 Moderate–severe reduction	G3b			
	15–29 Severe reduction	G4			
	<15 Kidney failure	G5			

Increasing risk

Increasing risk

[1] Consider using eGFRcystatinC for people with CKD G3aA1 (see recommendations 1.1.14 and 1.1.15)

Abbreviations: ACR, albumin:creatinine ratio; CKD, chronic kidney disease; GFR, glomerular filtration rate

Adapted with permission from Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group (2013) KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney International (Suppl. 3): 1–150

1.7.2 END-STAGE RENAL DISEASE TREATMENTS

End-stage renal disease (ESRD), also called kidney failure, is the last stage of chronic kidney disease. The hallmark of this stage includes significantly reduced kidney function and it is irreversible. However, patients suffering from kidney failure can still live a longer life if they undergo available treatment options here is a brief overview of the available treatment options for those with ESRD. (burner 2019)

1.7.2.1 KIDNEY TRANSPLANT

Kidney transplant is the number one treatment option for end-stage renal disease patients. This treatment involves transplanting a well-functioning kidney from a live or deceased donor and placing it in the lower abdomen of the patient.

1.7.2.2 KIDNEY DIALYSIS

Kidney dialysis is the most popular treatment you will find for ESRD. Dialysis involves using machines to do some of the kidney functions, such as removing excess fluid and waste products from your blood, controlling blood pressure and restoring electrolyte levels. According to studies, there are two main types of dialyzes available to patients. These are:

1. Peritoneal dialysis

In this dialysis, the blood vessels in your abdominal lining (peritoneum) do the filtration work for your kidney.

2. Hemodialysis

Hemodialysis involves a particular machine that filters salts, fluids, and other chemicals from the blood. The machines completely take over the function of your kidney. You can accomplish hemodialysis at a center or home.

3. Supportive Care

Supportive care can help you manage the symptoms and cope with the challenges of ESRD.ESRD is fatal if you do not get dialysis or transplant. The progression rate varies from patient to patient.

1.7.3 HEMODIALYSIS

Hemodialysis, a machine filters wastes, salts and fluid from your blood when your kidneys are no longer healthy enough to do this work adequately. Hemodialysis (he-moe-die-AL-uh-sis) is one way to treat advanced kidney failure and can help you carry on an active life despite failing kidneys.

Dialysis therapy ameliorates many of clinical manifestations of end-stage renal disease (ESRD) and postpones imminent death. However, the hemodialysis patients have higher morbidity and mortality, multiple hospitalizations, unique treatment complications, such as vascular access failure, considerable expenses, and lower

quality of life than the general population. The dialysis outcomes and practice patterns studies (DOPPS) which included patients from several countries (Japan, Australia, France, Germany, Italy, Spain, and the UK, the United States, Belgium, Canada and Sweden) with large populations of dialysis patients showed that dialysis practice varies widely among countries. There are limited data regarding hemodialysis practice patterns from India. We did this study to document the clinical profile of patients on maintenance hemodialysis (MHD) in the dialysis unit at our hospital. (American medical association 2014)

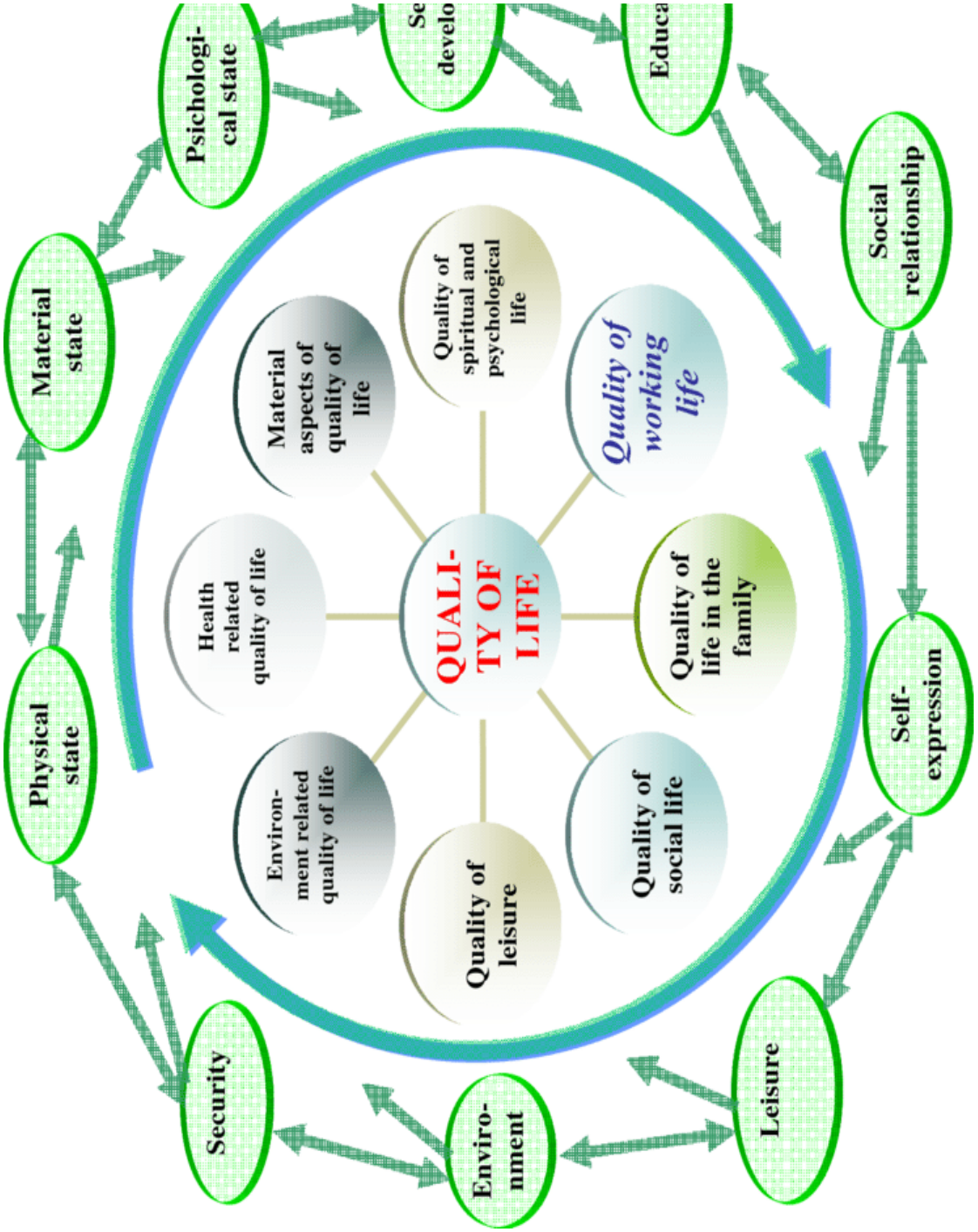
Three-times-a-week hemodialysis is more common, some research suggests that home dialysis is linked to:

- Better quality of life
- Increased well-being
- Reduced symptoms and less cramping, headaches and shortness of breath
- Improved appetite, sleeping patterns, energy level and ability to concentrate

1.7.4 QUALITY OF LIFE

Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment. (WHO, 2020)

The Constitution of the World Health Organization (WHO) defines health as "A state of complete physical, mental, and social well-being not merely the absence of disease". It follows that the measurement of health and the effects of health care must include not only an indication of changes in the frequency and severity of diseases but also an estimation of wellbeing and this can be assessed by measuring the improvement in the quality of life related to health care.



1.2 IMPORTANCE OF ASSESSING THE QOL IN ESRD PATIENT

1.8 CONCLUSION

Chronic kidney diseases are common in older people in Arar city, Northern Saudi Arabia. 6.5% had renal insufficiency, 5.8% had diabetic nephropathy, 1.4% had chronic kidney failures and 1.4% had Kidney resection. Large scale community based studies with detailed investigations are needed. Health education directed to elderly population and their care givers about renal disease.

As medical advances are made in the care of persons with chronic illnesses including those with end-stage renal disease (ESRD), patients are not only experiencing increasing life expectancy but also bearing the burden of illness and treatment for a longer duration of time. With this in mind, it is increasingly important for health care providers to pay close attention to their individual patient's perceptions of their health, fitness, life satisfaction, and well-being. This assessment of Health-Related Quality of Life (HRQOL) also includes an evaluation of the patient's level of satisfaction with treatment, outcome, and health status, also taking into account their perspective on future prospects. In addition to improving patient-provider communication by helping in the identification and prioritization of problems, it is important to note that high HRQOL has been shown to be associated with better medical outcomes, including reduction in hospitalizations and death. In this review, we outline several validated tools that are used to quantitatively measure HRQOL in the ESRD population and incorporate these instruments in a review of specific, evidence-based measures by which we can measurably improve health-related quality of life in dialysis patients. (Mitema D, Jaar BG,2016)

CHAPTER 2

REVIEW OF LITERATURE

2.1 INTRODUCTION

The research literature review is a written summary of the state of existing knowledge on a research problem. The task of reviewing research literature involves the identification, selection, critical analysis and written description of existing information on the topic of interest (Polit and Beck, 2004)

Chronic renal failure, or ESRD, is a progressive, irreversible deterioration in renal function in which the body's ability to maintain metabolic and fluid and electrolyte balance fails, resulting in uremia or azotemia (retention of urea and other nitrogenous wastes in the blood). (Burnner 2018)

Shinya Yokote, Takashi Yokoo (2017) concluded End-stage renal disease (ESRD) is a major clinical health problem worldwide. Renal transplantation using allogeneic cadaver organs or those from live donors is associated with better survival as compared to dialysis.

A study conducted on the "Quality of life in end-stage renal disease patients" by Valderrábano F, Jofre R, López-Gómez JM. Reported that No conclusive data exist to prove differences in QOL between hemodialysis patients and peritoneal dialysis patients. In the case of elderly patients or those with a high degree of comorbidity, the best treatment option should be assessed in each individual case, taking all possible factors into account. Finally, it has been proven that physical and mental function are inversely correlated with the risk for hospitalization and mortality.

A study conducted by Kyungmin Kim, Gun Woo Kang and Jungmin Woo2018, The Quality of Life of Hemodialysis Patients Is Affected Not Only by Medical but also Psychosocial Factors: a Canonical Correlation Study states that The quality of life (QoL) of patients with end-stage renal disease (ESRD) is very poor, plausibly due to both psychosocial and medical factors. This study aimed to determine the relationship among psychosocial factors, medical factors, and QoL in patients with ESRD undergoing hemodialysis (HD).

According to Natascha J, H. Broerset, al 2018) HRQOL is already low in the CKD-5 non-dialysis phase. In the first year after dialysis initiation, HRQOL did not change significantly. Given the correlation between PCS score and PA, physical activity programs may be potential tools to improve HRQOL in both CKD-5 non-dialysis as well as in prevalent dialysis patients.

According to Valderrábano F, Jofre R, López-Gómez JM (2001) Health-related quality of life (QOL) refers to the measure of a patient's functioning, well-being, and general health perception in each of three domains: physical, psychological, and social. Along with survival and other types of clinical outcomes, patient QOL is an important indicator of the effectiveness of the medical care they receive.

Quality of life (QOL) is an important parameter that needs to be considered when evaluating the experience and outcome of patients receiving healthcare. This is

especially the case for patients with long term chronic diseases, since complete cure from their illness is often impossible (Macduff, 2000)

There is an increasing need for international standards to measure QOL in a manner that allows comparisons across cultures. The international standards have to be relevant to individual cultures. The known differences between Western and Eastern cultures may be reflected in the QOL measurement results (Tseng, Lu, &Gandek, 2 2003). To address this diversity, researchers have to take care when translating established instruments (Goh et al., 1996).

The term QOL in dialysis patients started appearing in the literature in the 1970s. There were limited approaches used to study QOL at that time. Most studies were conducted in USA, Canada, United Kingdom (UK) and the Netherlands. Since the 1970s a large number of research studies have been conducted using a variety of research designs including qualitative and quantitative approaches. The majority of quantitative studies have used different tools to study QOL.

2.2 PREVALENCE OF ESRD

A systematic review and meta-analysis of observational studies estimating CKD prevalence in general populations worldwide found a consistent estimated global CKD prevalence of 11-13%. There have been a marked rise in the prevalence and incidence of end stage chronic kidney disease (CKD) in Saudi Arabia over the last 3 decades. This rise exceeds those reported from many countries. The enormous and rapid changes in lifestyle, high population growth, and fast increase in life expectancy, and massive urbanization that has occurred over the last 3 decades combined to make the current CKD status different to what it was. The 2 major factors that influence the CKD status are the very high rate of diabetic nephropathy and shift in age demographics.

Quality of life (QoL) in end-stage renal disease (ESRD) patients is an important outcome for both physicians and patients in selecting dialysis modality. Al WakeelJand Al Harbi A in 2012, conducted a comparison between regular maintenance hemodialysis and regular peritoneal dialysis patients in two tertiary referral hospitals in King Saud University in Saudi Arabia. We hypothesize that there might be cultural and socioeconomic factors modifying QoL in dialysis patients. In the unique culture of Saudi Arabia, peritoneal dialysis patients have better QoL, compared to hemodialysis patients, validating the findings of research reports from other countries.

There are 271 dialysis centers in the Kingdom of Saudi Arabia having 7,987 machines catering to 18,270 patients. The Ministry of Health (MOH) offers the largest percentage of these facilities with contributions made by the NON-MOH government sector as well as private and charitable sectors. The age distribution of dialysis population showed that the majority of patients are in the age groups (26-65) years (69%). About 9% of the dialysis patients are older than 75 years while only 1% of them are under 15 years.

2.3 RISK FACTORS

A study conducted by Sui-Lung Su, et,al 2015) revealed that Male, ageing, low income, hyperuricemia and lack of exercise habits were risk factors for CKD, and their effects in people with different comorbidities were identical. Anemia was a risk factor, and there was an additive effect between anemia and HTN on CKD. Patients with anemia had a higher risk when associated with HTN [odds ratio (OR) = 6.75, 95 % confidence limit (95 % CI) 4.76–9.68] but had a smaller effect in people without HTN (OR 2.83, 95 % CI 2.16–3.67). The association between hyperlipidemia-related factors and CKD was also moderated by HTN. It was a significant risk factor in people without HTN (OR = 1.67, 95 % CI 1.38–2.01) but not in patients with HTN (OR =1.03, 95 % CI 0.89–1.19). it concluded that patients with HTN and anemia were a high CKD risk population.

According to Jan et al, 2019) in their study on " Variations in Risk of End-Stage Renal Disease and Risk of Mortality in an International Study of Patients With Type 1 Diabetes and Advanced Nephropathy" illustrated that Despite almost universal reno protective treatment, progression to ESRD and mortality in patients with type 1 diabetes with advanced nephropathy are still very high and differ among countries. Finding causes of these differences may help reduce risk of these outcomes.

Study on "Risk Factors for ESRD in Individuals With Preserved Estimated GFR With and Without Albuminuria: Results From the Kidney Early Evaluation Program (KEEP) 2013" stated " In a diverse high- risk cohort of KEEP participants with preserved eGFR we showed that diabetes, higher systolic blood pressure, lower eGFR and black race were risk factors for developing treated chronic kidney failure irrespective of albuminuria status, although the absolute risk of kidney failure in participants without albuminuria was very low. Our findings support testing for kidney disease in high- risk populations, which often have otherwise unrecognized kidney disease".

Chi-yuan Hsu, MD, MSc, et al, 2009. Confirmed the importance of established ESRD risk factors in this large cohort with broad sex and racial/ethnic representation. Lower hemoglobin level, higher serum uric acid level, self-reported history of nocturia, and family history of kidney disease are independent risk factors for ESRD.

2.4 SYMPTOMS OF ESRD

Murtagh FE, Addington-Hall J and Higginson IJ. 2007 conducted a study on "The prevalence of symptoms in end-stage renal disease: a systematic review" and concluded that ESRD patients on dialysis experience multiple symptoms, with pain, fatigue, pruritus, and constipation in more than 1 in 2 patients. In patients discontinuing dialysis, evidence is more limited, but it suggests they too have significant symptom burden. No evidence is available on symptom prevalence in ESRD patients managed conservatively (without dialysis). The need for greater recognition of and research into symptom prevalence and causes, and interventions to alleviate them, is urgent.

Jhamb M, et.al 2013 in their study stated that Patients with advanced CKD and ESRD experience profound fatigue. Depressive symptoms, restless legs syndrome, excessive daytime sleepiness, and low albumin levels may provide targets for interventions to improve fatigue in patients with advanced CKD.

Shafi ST, Shafi T.2017 observed in there study that Poor sleep quality is common in patients with CKD including hemodialysis patients in a developing country, which is independent of kidney function in non-dialysis patients.

Zubair UB, Butt B. 2017 conducted a study on "Assessment of Quality of Sleep and its Relationship with Psychiatric Morbidity and Socio-Demographic Factors in the Patients of Chronic Renal Disease Undergoing Hemodialysis." And concluded that Poor sleep quality was highly prevalent among the patients of CKD receiving the hemodialysis. The patients with low family income, more age, and with two or less dialysis sessions per week should be screened thoroughly for the sleep problems. Presence of psychiatric morbidity emerged as an independent factor responsible for the poor sleep quality in our target population.

2.5 THE NOTIONS OR INTEREST OF STUDYING QOL

Concept QOL has been considered an important factor in the examination of patient responses to illness and treatment. In the past two decades the concept of QOL has increasingly been applied to study and evaluate the health conditions of patients with chronic illnesses (Schalock, 2004). Schalock emphasized that the interest in QOL has come from four sources. Firstly, there has been a shift from the belief that advances in medical technology alone would result in improved QOL, toward an understanding that personal, family, community and societal well-being are also important. Secondly, the interest is a logical step from the normalization movement that stressed community based services to assess and measure the outcomes of improved individuals QOL in the community. Thirdly, the increased emphases on customer empowerment and patients' rights have led to a focus on patient-centered care of which QOL is an element. Fourthly, the appearance of sociological research has introduced the subjective or perceptual aspects of QOL and the individual characteristics involved, generating the need for further research.

Table 2.1 Definition of QOL

Source	Definition
Edlund&Tancredi(1985)	One's ability to lead a socially "useful" life
Ferrans (1992)	The balance between positive feelings (elation) and negative feelings (depression)
Janssen Quality-of- life Studies (2006)	A subjective well-being. Recognizing the subjectivity of QOL is a key to understand this construct. QOL reflects the difference, the gap, between the hopes and expectations of a person and their present experience.

QOL Research Unit, University of Toronto (2006)	The degree to which a person enjoys the important possibilities of his/her life. Possibilities result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors.
Quality-of-Life Research Center, Denmark (2006)	Subjective QOL is about feeling good and being satisfied with things in general. Objective QOL is about fulfilling the societal and cultural demands for material wealth, social status and physical well-being.
Leidy (1994)	The ability to supply basic needs and to maintain health and well-being
OntarioSocial Development Council(1997)	A tool for community development which can be used to monitor key indicators that encompass the social, health, environmental and economic dimensions of the QOL in the community
Peplau (1994)	QOL is a perception that encompasses the prevailing view of one's life at a particular point in time
WHO Quality of life-BREF (2006)	An individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations and standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, and level of independence, social relationships, and their relationship to their environment.

2.5.1OBJECTIVE AND SUBJECTIVE DIMENSIONS OFQOL

Objective dimensions refer to observable life conditions or physical functioning. Subjective dimensions refer to the respondent's perceptions. Objectivity is demonstrated when measuring a patient's ability to perform common tasks or activities such as climbing stairs, while subjectivity is demonstrated when asking patients to rate the effects of health status on personal wellbeing (Muldoon et al., 1998). Muldoon et al. believe that measuring the subjective and objective dimensions of QOL such as physical, psychological condition, family and friends, work, community, health, education and spiritual domains is important, and applying the subjective objective approach in practice will make the QOL concept clearer and more precise because each dimension contributes to an overall assessment of the QOL. The complementary, perspective on QOL allocates vital value to an individual's subjective appraisal of their health status. This approach presumes that QOL is partly independent of health status (Guyatt, Feeny, & Patrick, 1993), and reflects the way how patients perception and response to their health conditions and to other non-medical aspects of their lives (Gill & Feinstein,1994).

What constitutes QOL is debated in the literature; some researchers advocate for subjective dimensions while others advocate for objective dimensions and some

advocate for both (Felce, 1997; Testa& Simonson, 1996). There is no universal consensus on which life dimensions contribute most to overall QOL (Bishop & Allen, 2003). However, the concepts that support the subjective and the objective dimensions are more dominate in research (Felce, 1997; Haas, 1999; Testa& Simonson). However, there is a growing consensus that QOL is a purely subjective experience (Bishop, Chapin & Miller, 2008) because it is unlikely that QOL is strongly determined by one's objective life condition, rather QOL is determined by one's subjective appraisal of one's life condition. Consequently, individuals are the only ones who can reliably estimate their own QOL (Ferrans,1996).

2.5.2 INDICATORS AND DETERMINANTS OFQOL

Indicators are events or conditions that typically characterize a specific situation; they are ''barometers''. Determinants, on the other hand, are defined as elements that determine the nature of something and can therefore be considered as external factors that affect a phenomenon (Merriam-Webster online, 2009). The literature has identified several QOL indicators.

The indicators are summarized in Table 2.2.

Table 2.2

Indicators	Description
Perceived QOL (Amarantos et al., 2001)	Subjective evaluation of both mental and physical status by the respondent
Objectively assessed aspects of the environment (Lee, 2005)	The physical environment and settings (e.g. home, nursing home, hospital), are highly associated with QOL as are social environments (e.g. living with relatives, alone). These aspects are explored in this dimension
Human adaptation (Janssen QOL Studies, 2006*)*	Is such that life expectations are usually adjusted so as to lie within the realm of what the individual perceives to be possible
Physical Being (QOL Research Unit, University of Toronto, 2006)	Includes aspects of physical health, personal hygiene, nutrition, exercise, grooming, clothing, and physical appearance
Psychological Being (QOL Research Unit, University of Toronto, 2006)	Includes the person's psychological health and adjustment, cognitions, feelings, and evaluations concerning the self, and self-control
Spiritual Being (QOL Research Unit, University of Toronto, 2006)	Reflects personal values, personal standards of conduct, and spiritual beliefs which may or may not be associated with organized religions
Physical Belonging (QOL Research Unit, University of Toronto, 2006)	The connections the person has with his/her physical environments such as home, workplace, neighborhood, school and community

Social Belonging (QOL Research Unit, University of Toronto, 2006)	Includes links with social environments and includes the sense of acceptance by intimate others, family, friends, co-workers, and neighborhood and community
Community Belonging (QOL Research Unit, University of Toronto, 2006)	Represents access to resources normally available to community members, such as adequate income, health and social services, employment, educational and recreational programs, and community activities.
Becoming (QOL Research Unit, University of Toronto, 2006)	Refers to the purposeful activities carried out to achieve personal goals, hopes, and wishes. Practical becoming describes day-to-day actions such as domestic activities, paid work, school or volunteer activities, and social needs.
Leisure (QOL Research Unit, University of Toronto, 2006)	Includes activities that promote relaxation and stress reduction. These include games, neighborhood walks, and family visits, or longer duration activities such as vacations or holidays

There is a poor distinction between indicators and determinants of QOL (Stewart, 1992). Neri et al. (2005) considered employment as a determinant of QOL and Kimmel et al. (2003) referred to religion as a determinant of QOL. In contrast, the QOL Research Unit, University of Toronto (2006) referred to both variables as indicators of QOL. Lee (2005) considered living conditions as indicators, yet in contrast, Neri et al. referred to them as a determinant of QOL. The distinction between indicators and determinants is crucial for conceptualizing QOL. In the conceptualization, one needs to distinguish between indicators of QOL (e.g., what is QOL? What refers to QOL?) and determinants of QOL (e.g., What contributes to QOL? What influences QOL?)(Smithet al., 1999). For instance, an indicator for kidney failure is a significant rise in serum creatinine and urea levels, whereas determinants of kidney failure include age, race, diet and family history. From this example, it is obvious that the screening and diagnosis of kidney failure requires the assessment of the indicators such as hemoglobin and albumin levels urea reduction ratio, rather than the determinants of QOL such as age, ethnicity, marital status and employment.

2.5.3 HEALTH-RELATED QUALITY OF LIFE(HRQOL)

Most of the research studies measured satisfaction of QOL against a predetermined number of dimensions or areas of life (Bowling, 1995). This is true for both generic measures such as the SF-36 (Ware &Sherbourne, 1992), and disease-specific measures such as the Diabetes QOL for Youth questionnaire (DCCT Research Group, 1988; Ingersoll & Marrero, 1991) and the Audit of Diabetes Dependent QOL (Bradley et al., 1999). The dimensions incorporated in the health-related QOL tools are narrower and more specific than those employed by social scientists (Amarantos, Martinez & Dwyer, 2001). The health-related QOL dimension is more bio-medically oriented, focusing upon physical and mental health dimensions that change with disease process and functional status, or treatment of these dimensions (Amarantos etal.).

The terms health, health-related quality of life (HRQoL), and quality of life (QoL) are used interchangeably. Given that these are three key terms in the literature, their appropriate and clear use is important. This paper reviews the history and definitions of the terms and considers how they have been used. It is argued that the definitions of HRQoL in the literature are problematic because some definitions fail to distinguish between HRQoL and health or between HRQoL and QoL. Many so-called HRQoL questionnaires actually measure self-perceived health status and the use of the phrase QoL is unjustified. It is concluded that the concept of HRQoL as used now is confusing. A potential solution is to define HRQoL as the way health is empirically estimated to affect QoL or use the term to only signify the utility associated with a health state.(karimi 2016).

2.6 QOL IN DIALYSISPATIENTS

A study conducted on the "Quality of life in end-stage renal disease patients" by Valderrábano F, Jofre R, López-Gómez JM. Reported that No conclusive data exist to prove differences in QOL between hemodialysis patients and peritoneal dialysis patients. In the case of elderly patients or those with a high degree of comorbidity, the best treatment option should be assessed in each individual case, taking all possible factors into account. Finally, it has been proven that physical and mental function are inversely correlated with the risk for hospitalization and mortality.

A study conducted by Kyungmin Kim, et.al,2018, The Quality of Life of Hemodialysis Patients Is Affected Not Only by Medical but also Psychosocial Factors: a Canonical Correlation Study states that The quality of life (QoL) of patients with end-stage renal disease (ESRD) is very poor, plausibly due to both psychosocial and medical factors. This study aimed to determine the relationship among psychosocial factors, medical factors, and QoL in patients with ESRD undergoing hemodialysis (HD).

The results of the study conducted by KousoulaGerasimoula et. all 2015 showed that the overall quality of life was correlated with age. A possible explanation is that patients of advanced age usually experience physical and cognitive impairment or may have lower expectations compared with younger individuals. Similarly, Mandoorah al., showed that patients older than 60 years had the worst report of the quality of life. Bayoumi et al., supported that age, dialysis duration and male gender were negative predictors of quality of life. Seica al., claimed that older age, female gender, lower socioeconomic status and higher educational level were associated with lower quality of life. Alshraifeen al., demonstrated that advanced age was associated with better overall mental health but worse physical functionality.

Also, the results of the present study showed that participants of higher education had better quality of life, possibly because education allows deep understanding of the disease and compliance to the therapeutic regimen. Another alternative explanation is that higher education may reflect higher income and consequently ability to afford treatment. Other relevant studies have shown positive relationship between the level of education and quality of life.

In addition, results demonstrated correlation between quality of life and patient information about their health problem. Interestingly, patients cannot handle the

disease adequately, if are not taught the basic principles of the treatment including dietary limitations, discipline, acceptance of machine and other necessary elements.

The finding of increased duration of dialysis and reduction of quality of life is consistent with Seica et al .It was also shown better quality of life in patients who had good relations with the medical-nursing staff. Indeed, a stable and sincere relation is a valuable tool for both sides. A good relation may also reflect that the medical team knows to reduce the patient's stress using the supportive techniques or proper intervention methods.

According to Dabrowska-Bender M, and Dykowska G Zuk 2018 In order to improve the functioning of hemodialysis patients in a manner most similar to healthy persons, the renal replacement therapy should consider patients' individual needs and expectations, ie, guarantee flexible hours of work or study and of receiving dialysis. In addition, patients treated with hemodialysis should receive psychological care, in particular those demonstrating emotional problems, in order to achieve better results in therapy and improve their QoL.

2.7 SOCIO-DEMOGRAPHIC FACTORS CLINICAL VARIABLES CONTRIBUTING TO QOL IN DIALYSIS PATIENTS

Most studies looked at certain aspects of socio-demographic factors and QOL. In this study, the researcher examined a wide range of socio-demographic factors such as gender, ethnicity, religion, social and family support, marital status, employment, education level and age. Also the researcher studied various clinical variables such as presence of other chronic illnesses, knowing the cause of kidney failure, length of time on dialysis, and laboratory test results values (hemoglobin, serum creatinine, serum albumin, and dialysis adequacy).

2.7.1 SOCIO-DEMOGRAPHIC FACTORS CONTRIBUTING TO QOL IN DIALYSISPATIENTS

2.7.1.1 GENDER

The influence of gender on QOL was regularly examined in the dialysis literature. In the main this examination only looked at whether there were differences in male and female scores on the QOL measures. Gender affects QOL in general population and HD patients as well.15 Females have poor QOL as compared to male patients. In this study, males have better QOL in social relationship domain as compared to females. The reason of better QOL in males is that male have better social relationships (strong relation and sexual activation) and support than females. These patients have more chances of outing and meeting friends which give them encouragement to face challenges of life. Similar observation was made by (Santos PR et al, 2019)

2.7.1.2 AGE

Age is one of the important predictor of QOL of HD patients. According to Liu WJ et al, age more than forty years was a significant risk factor of QOL of HD patients. In this study, Age have negative relationship with physical and psychological health domain. As age increases QOL impairs. But it is different as compared to other study by Khaled Abdel-Kader et al.2019 These findings are consistent with the longitudinal HRQOL data in the HD (HEMO) Study, and the North Thames Study findings20 suggest that targeting future interventions at younger patients with CKD may have a larger impact on improving HRQOL.(Khaled Abdel-Kader et al.2019)

2.7.1.3 ETHNICITY

Several studies have examined the effect of ethnicity on QOL. Studies done with African American hemodialysis patients reported better health status and QOL compared with Caucasians (Kutner, Brogan, Fielding, & Hall, 2000; Kutner&Devins, 1998). Kutner et al. consider that African American patients possess "hardiness" as part of their biological make up that is not captured by the routinely collected clinical status variables and QOL tools. Furthermore, African Americans might have greater perception of social supports compared with Caucasians patients (Kutner et al., 1998). This could promote the sense of well-being for African American patients compared with Caucasians patients (Kutner et al., 2000).

2.7.1.4 MARITAL STATUS

Marital status affects QOL. The major reason for this is that unmarried persons are dependent on their families as compared to married persons who have to run whole family which increases the financial stress and affect QOL. (Khaled Abdel-Kader et al.2019)

2.7.1.5 EDUCATION

There is positive relationship between the level of school education and the QOL. Education level does not affect QOL of HD patients in overall analysis but literate patients have better QOL in Domain 1(Physical health) than Illiterate. The patients who are literate, they have better understanding of the disease and awareness regarding it treatment options. (Khaled Abdel-Kader et al.2019)

2.7.1.6 EMPLOYMENT

Patients who are satisfied with treatment and they accept it they have better working capacity and sleep and rest which improves their QOL. Eighteen patients were employed among 84(67.2%) literate patients whereas only four patents were employed in 41(32.8%) illiterate patients. This thing shows that with improvement in education, job opportunities are more which improves financial status and improves QOL in HD patients. Similar observation is made by Patti F et al,2011 . Employment has been found to be a vital factor improving the QOL of ESRD patients. In this study

only 22(17.6%) patients are employed. Employment is the only factor which affects the other three domains amongst all four domains of QOL. According to Sathvik BS et al.,23 employment also affect three domains of QOL. Patients who are employed have better QOL in physical & psychological health and social relationship domain than unemployed patients. Similar observation is made by studies in Taiwan and Brazil. According to Bohlke M et al, there were only 11(8%) patients who were employed and having job, amongst them employment was a better predictor of QOL of HD patients. Employed patients can perform their jobs, have better body image, appearance and self-esteem which improves their QOL than unemployed.(Khaled Abdel-Kader et al.2019)

2.7.1.7 FINANCIAL STATUS

Financial status effect QOL of HD patients. According to a report by Nadia Ayub and ZahidIqbal, income has a positive influence on life satisfaction. Patients with better income level have no financial stress in getting a dialysis than in patient with lower income because they have good means of transport in case of medical emergency, better living, noise & pollution free environment and social activities which improve their QOL. Patients with good income support have more chances of availing opportunities for recreation and leisure activities which give them feeling of healthy life and improved QOL. Similar pattern is also observed by Seica A et al. According to him, lower socioeconomic status affect QOL in HD patients. Place of residence does not affect QOL in overall analysis but in domain wise analysis patients of rural areas in physical health and environment domain has better QOL as compared to patient living in Urban areas. Although there is improvement in living in urban areas and facilities are more as compared to rural areas but still QOL is better in rural areas. In urban areas, there is burden of traffic on the roads which hinders mobility. In urban areas, life is close to nature, environment is pollution free which improves QOL.

Total time consumed in getting HD effects QOL significantly in social relationship domain than other domains. Actually patients with good social relations were getting support in the form of private transport which helped them in getting HD timely. Moist LM et al, reported similar results. According to him, longer travel time was associated with lower QOL. Government of Pakistan has provided dialysis services at the doorstep of ESRD patients in THQ's and DHQ's hospitals.(Khaled Abdel-Kader et al.2019)

2.7.1.8 MODE OF TRANSPORT

Mode of transport effect QOL in environment domain than all other domains. Patients with private transport were having better QOL than public and other transports. Private transport provides them freedom for movement, physical safety and less exposure to physical environment like pollution, noise, traffic, climate and clumsy environment. In public transport they have to wait a lot at bus stops and they spent more time in getting HD. Distance covered to reach hospital effect QOL. Patients who were coming from distance more than 5km their QOL was impaired in psychological domain than other domains. Patients who were coming for more distances were

having more worries in getting HD and they have to travel a lot in getting HD which increase the time. As already discussed, time consumed in getting HD effect QOL, perhaps underlying factor is distance covered to reach hospital and private transport. (Khaled Abdel-Kader et al.2019)

2.7.2 CLINICAL VARIABLES CONTRIBUTING TO QOL IN DIALYSISPATIENT

2.7.2.1 CHRONIC HEALTHPROBLEMS

Co-morbid medical conditions are common in patients on dialysis. They are considered as important contributing factors to clinical outcomes and QOL. Associated diseases, especially diabetes mellitus, are strongly related to the worst QOL scores in kidney failure patients on dialysis (Bakewell, Higgins, & Edmunds, 2002; Kalantar-Zadeh et al.2001

2.7.2.2LENGTH OF TIME ON DIALYSIS

The length of time on dialysis could lead to the extension of suffering from the consequences of kidney failure. Dialysis patients not only face treatment-related stressors but have to deal with changes in their life, self-confidence and family roles (Lev & Owen, 1998). Bohlke et al. (2008) used a cross-sectional design to study the predictors of QOL in 140 patients undergoing dialysis (94 on hemodialysis and 46 on peritoneal dialysis) in three southern Brazilian dialysis facilities using the SF-36. They found that patients who had been on dialysis for short lengths of time had higher QOL scores compared to patients who have been on dialysis for longer period of time

2.8 MANAGEMENT

End-stage renal disease management may include:

- Kidney transplant
- Dialysis
- Supportive care

2.8.1 KIDNEY TRANSPLANT

- A kidney transplant is a surgical procedure to place a healthy kidney from a live or deceased donor into a person whose kidneys no longer function properly. A kidney transplant is often the treatment of choice for end-stage renal disease, compared with a lifetime on dialysis.

- The kidney transplant process takes time. It involves finding a donor, living or deceased, whose kidney best matches your own. You then undergo a surgical procedure to place the new kidney in your lower abdomen and attach the

blood vessels and ureter — the tube that links the kidney to the bladder — that will allow the new kidney to function. You'll spend several days to a week in the hospital. After leaving the hospital, you'll have frequent checkups as your recovery continues. You'll take a number of medications to help keep your immune system from rejecting your new kidney and to reduce the risk of post-surgery complications, such as infection. After a successful kidney transplant, your new kidney filters your blood, and you no longer need dialysis.

2.8.2 DIALYSIS

Dialysis does some of the work of your kidneys when your kidneys can't do it themselves. This includes removing extra fluids and waste products from your blood, restoring electrolyte levels, and helping control your blood pressure.

Dialysis options include peritoneal dialysis and hemodialysis.

2.8.2.1 PERITONEAL DIALYSIS

During peritoneal dialysis, blood vessels in your abdominal lining (peritoneum) fill in for your kidneys with the help of a fluid that washes in and out of the peritoneal space. Peritoneal dialysis is done in your home.

2.8.2.2 HEMODIALYSIS

During hemodialysis, a machine does some of the work of the kidneys by filtering harmful wastes, salts and fluid from your blood. Hemodialysis may be done at a center or in your home.

For dialysis to be successful, you may need to make lifestyle changes, such as following certain dietary recommendations.

2.8.3 SUPPORTIVE CARE

With supportive care, your symptoms are managed so that you feel better. You may choose supportive care alone or combine it with other treatment options.

Without either dialysis or a transplant, kidney failure progresses, eventually leading to death. In some people, the disease progresses slowly over months and years, while in others the disease progresses quickly.

2.9 ROLE OF PHYSIOTHERAPY IN IMPROVING QOL OF PATIENTS ON HEMODIALYSIS

A study conducted on Patients with chronic kidney disease suffer from a decline in quality of life and respiratory function, for various reasons related to this condition with an objective to verify the influence of intradialytic physiotherapy on the quality of life and respiratory function in chronic renal patients found that There was a difference in the comparison of the general QOL before and after ($p = 0.006$) the intervention, as well as in the improvement of the maximal forced expiratory flow peak ($p = 0.001$), the PEmax ($p = 0.000$), peak forced expiratory flow rate (0.017) and pain ($p = 0.006$). There was also improvement of edema ($p = 0.013$) and cramps ($p = 0.000$) Hugo Machado Sanchez etal, 2018). Although physical activity is an important factor in prevention of much chronic non-infectious disease, it is rarely used as a regular procedure in dialysis patients. Despite the guidelines on good clinical practice, recommended physical exercise as a part of routine activities is implemented in a very small number of centers. Factors that contribute to sustainable exercise programs are the professional commitment of a multidisciplinary team consisting of physiotherapist, nephrologist, geriatrist, social worker, nurse, the incentive and encouragement of the entire dialysis for carrying out active exercise, as well as adequate physical space and equipment, with individualization for each patient in turn. Patients with end- stage kidney disease that are in the physical treatment program show significant functional improvements, especially those associated with the cardiovascular, respiratory and muscular system, as well as with the quality of life. There are no reports on serious injuries as a result of participation in the exercise program. This indicates that it is time for physical therapy to be included in the regular routine care procedure in hemodialysis patients. However, it is necessary to identify an optimal training regimen in accordance with the individual characteristics of each patient, in order to make it easier to apply the exercise program. (Radojica et al, 2018)

A study on the impact of multidisciplinary rehabilitation on the quality of life of hemodialysis patients in Iran by Tahereh etal, 2016 concluded as the mean age of patients was 55.8 ± 14.3 years, 60% were male, and 93.3% were married. The average duration of hemodialysis was 3 ± 2.4 years. The quality of life score of all patients before the intervention was between 10 and 19 (moderate level), which after intervention, improved to a good level in half of the patients ($p < 0.001$).
Rehabilitation programs improve the quality of life of hemodialysis patients. By this finding, implementation of rehabilitation programs is recommended in hemodialysis centers with participation of experts from different fields including nurses, physiotherapists, and clinical psychologists.

2.9.1 CONTINUING CARE.

The importance of follow-up examinations and treatment is stressed to the patient and family because of changing physical status, renal function, and dialysis requirements. Referral for home care provides the physiotherapists with the opportunity to assess the patient's environment, emotional status, and the coping strategies used by the patient and family to deal with the changes in family roles often associated with chronic illness. The home care also assesses the patient for further deterioration of renal function and signs and symptoms of complications resulting from the primary renal disorder, the resulting renal failure, and effects of treatment strategies (eg, dialysis, medications, dietary restrictions). Many patients need ongoing education and reinforcement on the multiple dietary restrictions required, including fluid, sodium, potassium, and protein restriction. Reminders about the need for health promotion activities and health screening are an important part of nursing care for the patient with renal failure.

CHAPTER 3

RESEARCH METHODOLGY

Sl.no	Content
3.1	Background
3.2	Research approach
3.3	Reearch design
3.4	Setting
3.5	Population
3.6	Sample
3.7	Sampling technique
3.8	Duration of the study
3.9	Inclusion criteria
3.10	Exclusion criteria
3.11	Tool and technique
3.12	Validity and reliability
3.13	Ethical consideration
3.14	Data collection method
3.15	Data analysis method
3.16	Pilot study

3.1 RESEARCH APPROACH

Descriptive approach was used in this study to assess the quality of life of patients on hemodialysis with ESRD.

3.2 SETTING

In this study the following settings were used to conduct the study to assess the quality of life of patients.

1. Artificial Kidney Unit, ArAr Central Hospital, ArAr, Kingdom of Saudi Arabia

2. Artificial Kidney Unit, ArAr Medical Towers, ArAr, Kingdom of Saudi Arabia.

3.3 POPULATION

The patients with ESRD who comes to the Artificial Kidney Unit Department of ArAr Central Hospital and ArAr Medical Towers, ArAr, Kingdom of Saudi Arabia were selected as the population for the study.

3.4 SAMPLE

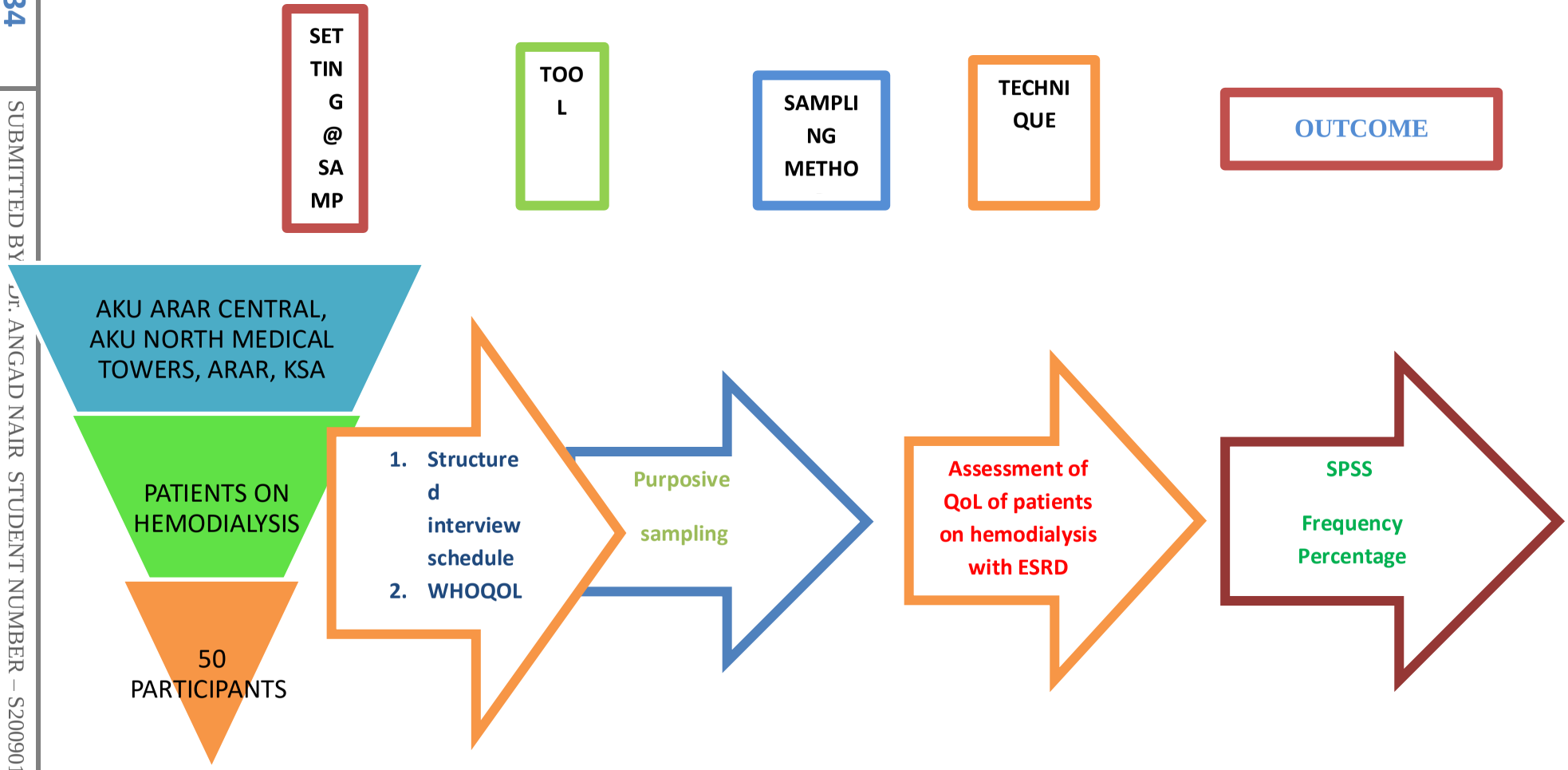
Necessary samples were collected after considering the exclusion and inclusion criteria from the population of patients who were admitted in the artificial kidney unit of ArAr Central hospital and ArAr Medical Towers. A total of 50 samples were selected for the present study.

3.5 SAMPLING TECHNIQUE

Convenience sampling techniques is used in this present study for the collection of patients after considering the inclusion and exclusion criteria.A total of 50 samples were selected after satisfying inclusion ad exclusion criteria and a purposive sampling method was used for the collection of the data. Out of which 25 were Males and 25 were Females.

RESEARCH DESIGN

3.3



3.6 INCLUSION CRITERIA:

1. Adult male and female persons with the diagnosis of ESRD and on hemodialysis
2. Age ranging from 15 years and above
3. The patients who were conscious and oriented to answer the questionnaire
4. The patients who gave a signed consent to participate in the study

3.7 EXCLUSION CRITERIA

1. Comorbidities which may severely affect the quality of life of patients other than ESRD
2. Cognitive problems, mentally ill, confused or disoriented and aphasia
3. Non-cooperative patients
4. Patients receiving other forms of renal replacement therapy

3.8 TOOL AND TECHNIQUE

Technique is the method by which the data are collected. Tools are devices or instruments utilized to collect data

3.8.1 TOOL

The tools used in the study were the following

1. Demographic data of the patient was collected with 10 questions.

2. WHOQOL-BREF to assess Quality of Life of patients with 26 sample friendly questions, (approved on December, 1996.) with the maximum score being 5 and minimum being 1, denotes High and Low respectively.

3.8.2 TECHNIQUES

Techniques used in this study to collect the data where

1. Observations
2. Interview

3.9 Validity and Reliability

The tools were prepared after a detailed research review and consultation with subject experts. Necessary modifications were done after pilot study and revision with research experts from the medical field to ensure its clarity and visibility.

Reliability – A standard tool WHOQOL- BREF was used. A pilot study conducted on 10 patients showed that the tool used was found to be reliable in assessing different aspects of Quality of Life according to the objectives mentioned in the study.

3.10 Ethical Consideration

Throughout the period, consideration of ethical values were maintained by-

a) Obtaining permission from the hospital director and concerned head of the department.
b) Written and signed consent was obtained from the patient before the collection of data.
c) All the measures were taken to ensure that regular treatment was uninterrupted during the collection of data.
d) Ethical committee clearance was obtained from the concerned authority before starting the study.

3.11 Data collection method

The investigator obtained prior permission to conduct the study from the Head of the Department and Hospital Director . Ethical committee clearance was obtained before the data collection process.

A total of 50 samples were selected after satisfying inclusion ad exclusion criteria and a purposive sampling method was used for the collection of the data.

The investigator met each participants individually and established rapport with them. Also, the purpose of the study was explained to them. The confidentiality of data was assured to the participants and was informed that this study is for study purpose only. To ensure this a written Assessment of quality of life was done on patients who came for hemodialysis with a diagnosis of ESRD, in the artificial kidney unit of ArAr central hospital and North Medical Towers ArAr, KSA from 12/02/2021 to 11/05/2021.

3.12 Data analysis method

The collected data were transformed into the master sheet and necessary coding was performed. Diagrams and charts were also drawn as per requirement to illustrates most salient findings. SPSS version 26 was promptly used for all computations.

The following statistical methods were used for the analysis of the data.

a) Frequency Percentage

   i) Definition - A percentage frequency distribution is a display of data that specifies the percentage of observations that exist for each data point or grouping of data points. It is a particularly useful method of expressing the relative frequency of survey responses and other data. Many times, percentage frequency distributions are displayed as tables or as bar graphs or pie charts.

   ii) Analysis- The process of creating a percentage frequency distribution involves first identifying the total number of observations to be represented; then counting the total number of observations within each data point or grouping of data points; and then dividing the number of observations within each data point or grouping of data points by the total

number of observations. The sum of all the percentages corresponding to each data.

b) Pearson's Correlation –

i) Definition - Pearson's correlation coefficient is the covariance of the two variables divided by the product of their standard deviations. The form of the definition involves a "product moment", that is, the mean (the first moment about the origin) of the product of the mean-adjusted random variables; hence the modifier product-moment in the name.

ii) Analysis- The correlation coefficient ranges from −1 to 1. A value of 1 implies that a linear equation describes the relationship between X and Y perfectly, with all data points lying on a line for which Y increases as X increases. A value of −1 implies that all data points lie on a line for which Y decreases as X increases. A value of 0 implies that there is no linear correlation between the variables. More generally, note that $(X_i - X)(Y_i - Y)$ is positive if and only if X_i and Y_i lie on the same side of their respective means. Thus the correlation coefficient is positive if X_i and Y_i tend to be simultaneously greater than, or simultaneously less than, their respective means. The correlation coefficient is negative (anti-correlation) if X_i and Y_i tend to lie on opposite sides of their respective means. Moreover, the stronger is either tendency, the larger is the absolute value of the correlation coefficient.

iii) Rodgers and Nicewander cataloged thirteen ways of interpreting correlation:

- Function of raw scores and means
- Standardized covariance
- Standardized slope of the regression line
- Geometric mean of the two regression slopes
- Square root of the ratio of two variances
- Mean cross-product of standardized variables
- Function of the angle between two standardized regression lines
- Function of the angle between two variable vectors
- Rescaled variance of the difference between standardized scores
- Estimated from the balloon rule
- Related to the bivariate ellipses of iso concentration
- Function of test statistics from designed experiments
- Ratio of two means

3.13 Pilot study

After obtaining permission from the hospital director, the concerned head of the department (AKU) and consent from the patient, a pilot study was conducted among 10 patients who were admitted in AKU of ArAr Central Hospital and Medical Towers, with the diagnosis of ESRD and on Hemodialysis.

CHAPTER 4 RESULTS AND ANALYSIS

Sl.no	Content
4.1	Demographic frequency table 1. Age 2. Gender 3. Matrial status 4. Number of children 5. Education level 6. Occupational status
4.2	Health related data 1. Frequency of dialysis 2. Duration of dialysis 3. Years since the health problems was presented
4.3	Physical factors 1. To what extent do you feel that physical pain prevents you from doing what you need to do? 2. How much do you need any medical treatmnet to function in your daily life 3. How healthy is your physical environment? 4. Do you have enough energy for everyday life 5. How satisfied are you with your sleep? 6. How satisfied are you with your ability to perform your daily living activities?
4.4	Social factors 1. How satisfied are you with your personal relationships? 2. How satisfied are you with the support you get from your friends? 3. How satisfied are you with your sex life? 4. How much do you enjoy life? 5. How available to you is the information that you need in your day to day life? 6. To what extent do you have the opportunity for leisure activities? 7. How well are you able to get around? 8. How satisfied are you with your personal relationships?
4.5	Psychological factors 1. How satisfied are you with your health 2. How safe do you feel in your daily life? 3. Are you able to accept your bodily appearance?

4. How satisfied are you with yourself?
5. How often do you have negative feelings such as blue mood, despair, anxiety and depression?
6. To what extent do you feel your life to be meaningful?

4.6 Environmental factors

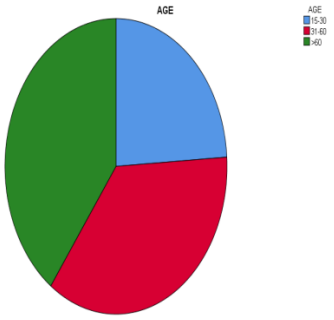
1. How satisfied are you with the conditions of your living place?
2. How satisfied are you with your access to health services?
3. How satisfied are you with your transport?
4. How would you rate your quality of life?

4.7	Correlations between education status and quality of life
4.8	Correlations between age and quality of life
4.9	Correlations between how would you rate the quality of life and years since the health problems was presented.
4.10	Correlations between duration of health problems and negative feeling
4.11	Correlations between years since the health problems was presented and how satisfied are you with your sex life?
4.12	Correlations between the quality of life and support from friends

4.1 Demographic Frequency Table

1. **AGE**

Chart 1.1



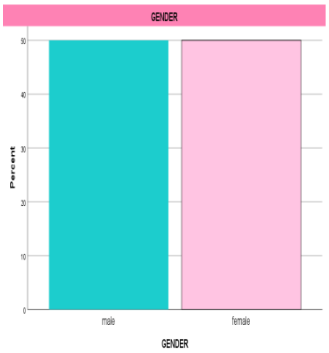
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-30	12	24.0	24.0	24.0
	31-60	18	36.0	36.0	60.0
	>60	20	40.0	40.0	100.0
	Total	50	100.0	100.0	

Table4.1

Among the participants studied majority of them were above 60 years followed by the age group between 31- 60 years.

1. **GENDER**

Chart2



		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	25	50.0	50.0	50.0
	Female	25	50.0	50.0	100.0
	Total	50	100.0	100.0	

Table 4.2

The distribution of participants among male and female were found to be equal while doing the analysis.

2. **MARITIAL STATUS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	29	58.0	58.0	58.0
	Unmarried	10	20.0	20.0	78.0
	Widowed	9	18.0	18.0	96.0
	Divorced	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Table 4.3

More than half of the participants were leading a married life (58%) . The number of unmarried and widowed was nearly equal with 20% and 18% respectively

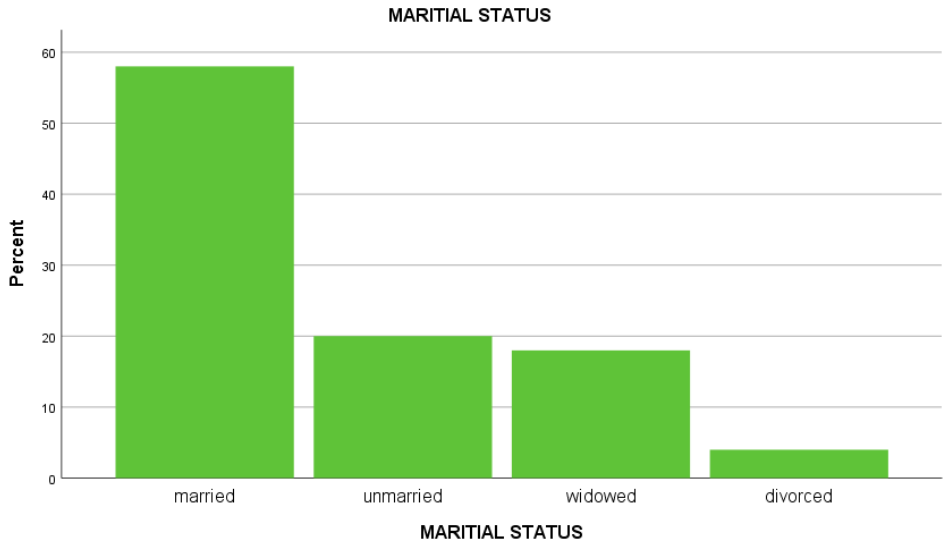


Chart 3

3. NUMBER OF CHILDREN

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NONE	13	26.0	26.0	26.0
	1	1	2.0	2.0	28.0
	2	3	6.0	6.0	34.0
	<2	33	66.0	66.0	100.0
	Total	50	100.0	100.0	

Table 4.4

Majority of the participants had more than 2 children.

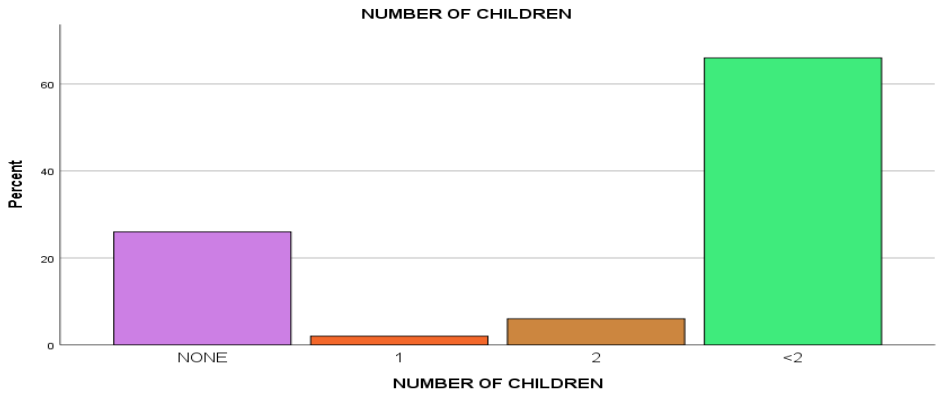


Chart 4

4. EDUCATION LEVEL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NONE	19	38.0	38.0	38.0
	PRIMARY SCHOOL	14	28.0	28.0	66.0
	SECONDARY SCHOOL	12	24.0	24.0	90.0
	UNIVERSITY	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

Table 4.5

However 38% of the participants were uneducated, but 52 % were undergraduate.

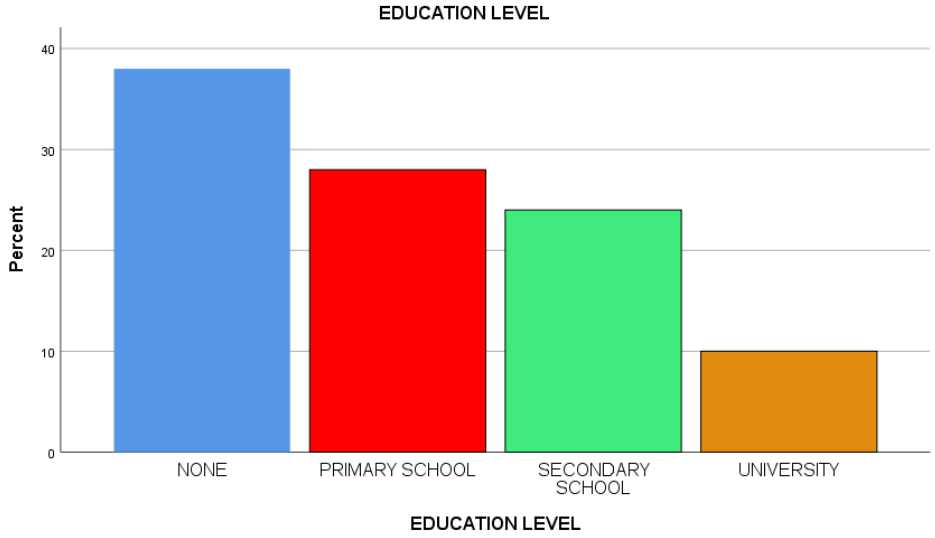


Chart 5

5. OCCUPATIONAL STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	UNEMPLYOED	33	66.0	66.0	66.0
	STATE EMPLOYE	8	16.0	16.0	82.0
	PRIVATE EMPLOYE	2	4.0	4.0	86.0
	HOUSEHOLD	7	14.0	14.0	100.0
	Total	50	100.0	100.0	

Table 4.6

Majority of the participants with 66% were unemployed and stated the diagnosis of the disease and the treatment be the reason for the same. 20 % were employed in the state and private sector with 16 and 4 % respectively.

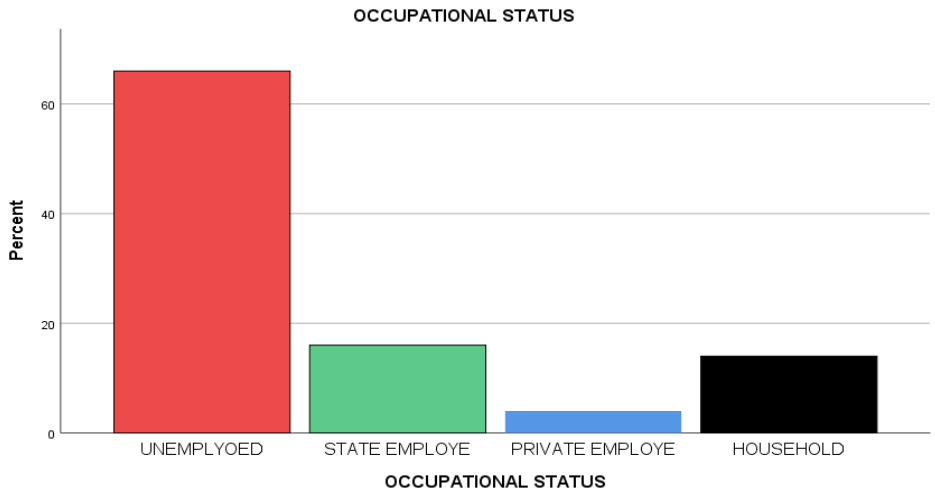


Chart 6

4.2 **Health related data**

1. FREQUENCY OF DIALYSIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 TIMES	2	4.0	4.0	4.0
	3 TIMES	43	86.0	86.0	90.0
	4 TIMES	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

Table 4.7

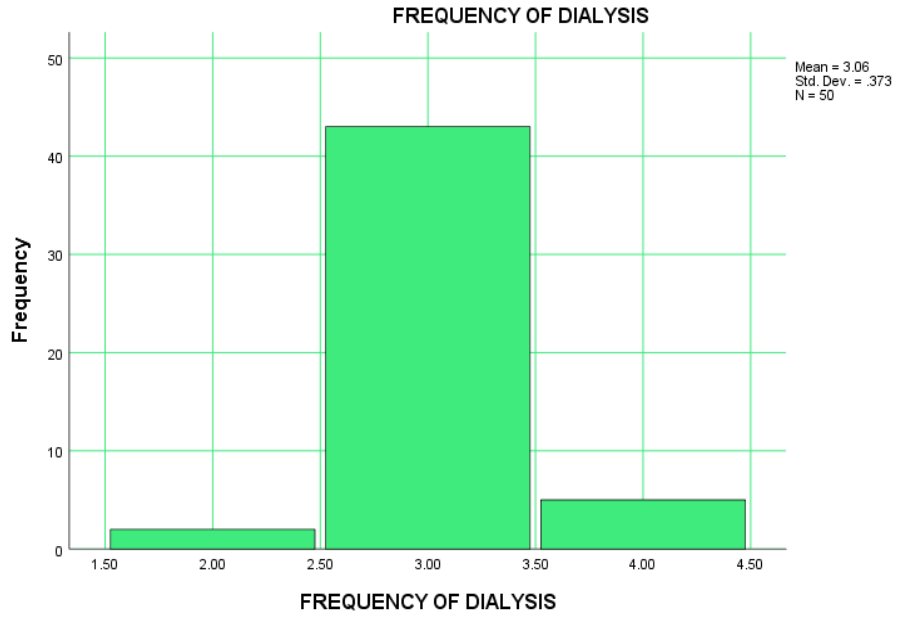


Chart 7

Majority (86%) of the patients underwent dialysis thrice weekly.

2. DURATION OF DIALYSIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3 HOUR	50	100.0	100.0	100.0

Table 4.8

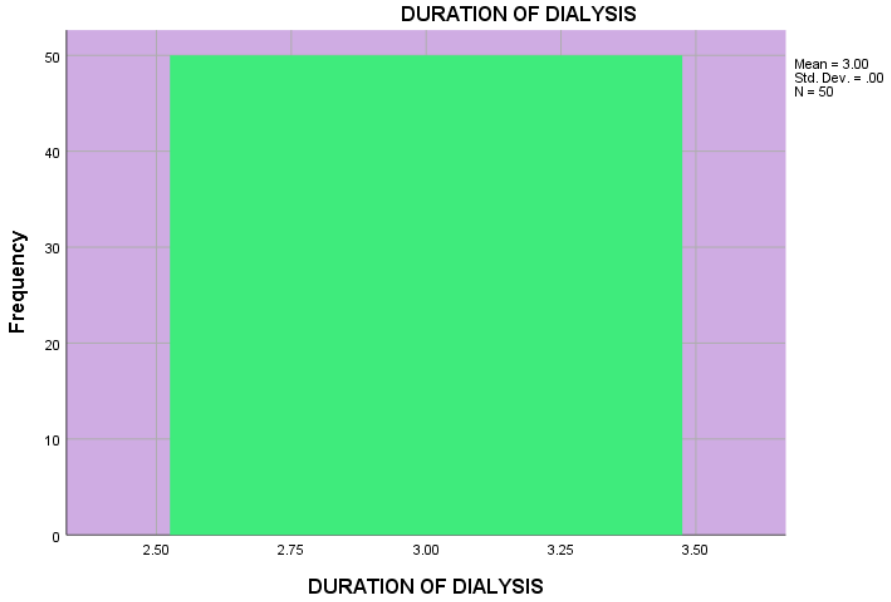


Chart 8

All the patients were undergoing dialysis for 3 hours

3. YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<1	8	16.0	16.0	16.0
	2- 5 YEARS	31	62.0	62.0	78.0
	6 - 10 YEARS	5	10.0	10.0	88.0
	11 - 15 YEARS	2	4.0	4.0	92.0
	> 16 YEARS	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Table 4.9

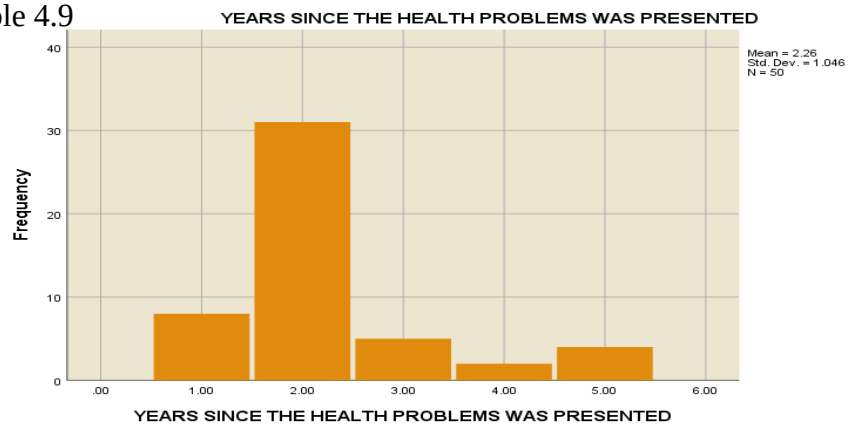


Chart 9

The above statistics shows that 62% people were suffering from health issues since 2 to 5 years

4.3 **PHYSICAL FACTORS**

1. TO WHAT EXTENT DO YOU FEEL THAT PHYSICAL PAIN PREVENTS YOU FROM DOING WHAT YOU NEED TO DO?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	14	28.0	28.0	28.0
	A LITTLE	8	16.0	16.0	44.0
	MODERATE	16	32.0	32.0	76.0
	VERY MUCH	12	24.0	24.0	100.0
	Total	50	100.0	100.0	

Table 4.10

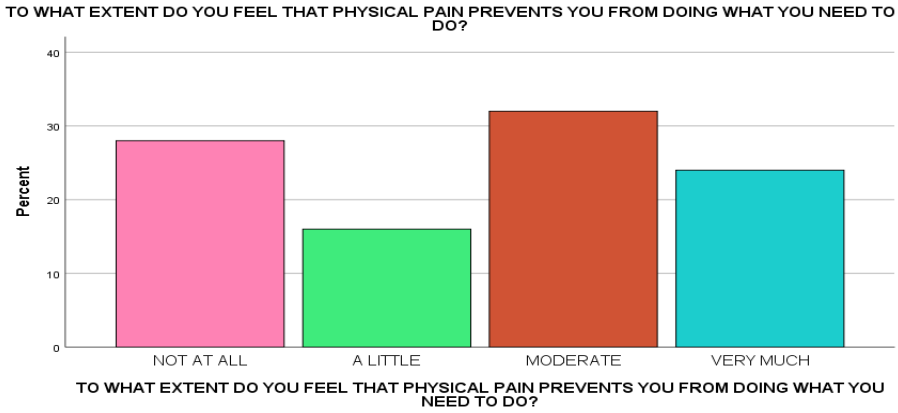


Chart 10

32 % of the total participants were suffering from moderate pain and one by forth were in agony which prevented them from performing the activities what they had to do. 28% of them reported no pain at all.

2. HOW MUCH DO YOU NEED ANY MEDICAL TREATMNET TO FUNCTION IN YOUR DAILY LIFE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	7	14.0	14.0	14.0
	A LITTLE	3	6.0	6.0	20.0
	MODERATE	30	60.0	60.0	80.0
	VERY MUCH	10	20.0	20.0	100.0

	Total	50	100.0	100.0	

Table 4.11

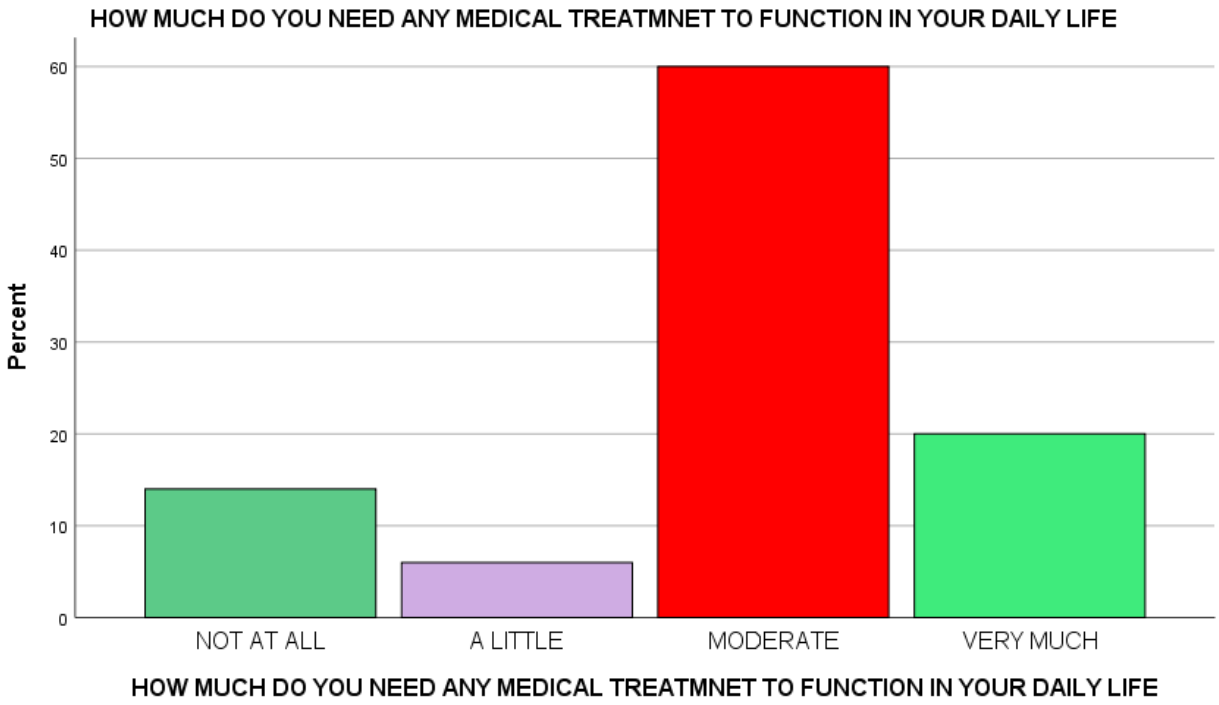


Chart 11

80 % people had dependency moderate to high on medication to perform activities of daily living, where as 6 % of them needed a little medical support while 14 percent needed no medical treatment.

3. HOW HEALTHY IS YOUR PHYSICAL ENVIRONMENT?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	5	10.0	10.0	10.0
	A LITTLE	5	10.0	10.0	20.0
	MODERATE	22	44.0	44.0	64.0
	VERY MUCH	18	36.0	36.0	100.0
	Total	50	100.0	100.0	

Table 4.12

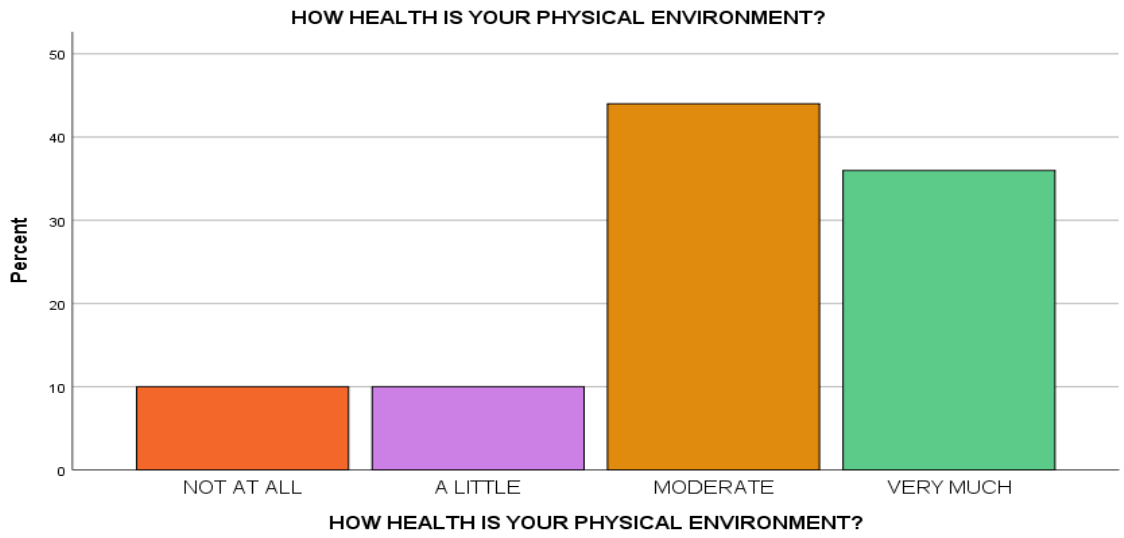


Chart 12

80 % people felt a healthy environment where as 10 % felt an hostile environment.

4. DO YOU HAVE ENOUGH ENERGY FOR EVERYDAY LIFE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	7	14.0	14.0	14.0
	A LITTLE	7	14.0	14.0	28.0
	MODERATELY	24	48.0	48.0	76.0
	MOSTLY	12	24.0	24.0	100.0
	Total	50	100.0	100.0	

Table 4.13

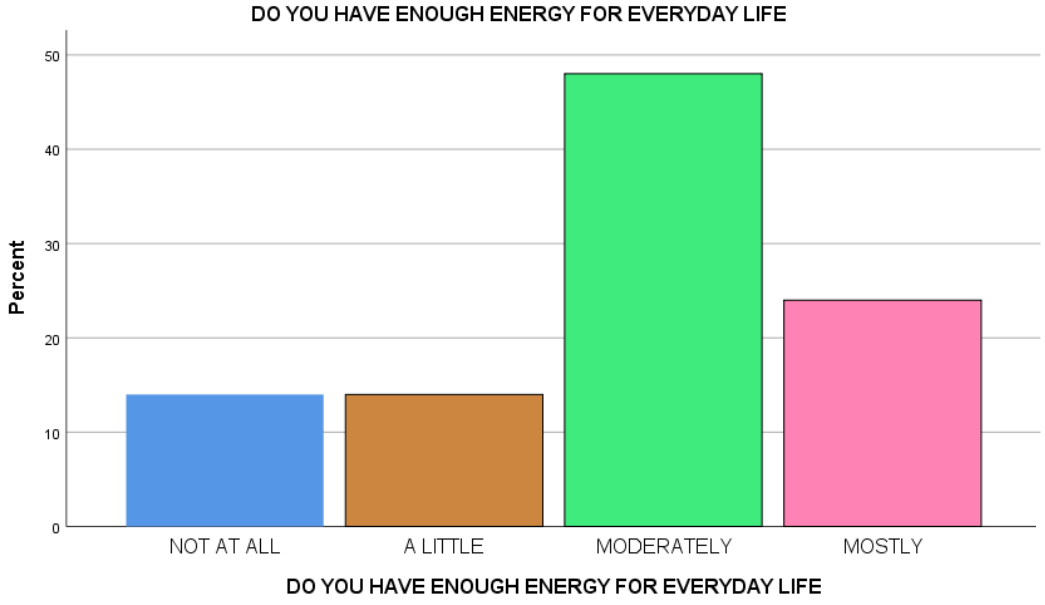


Chart 13

Nearly half of the participants (48%) reported moderate energy level while doing the activities of daily living. One by forth of them (28%) reported good energy level. It was unfortunate that a total of 28% complained a little or no energy level for meeting the activities of daily living.

5. HOW SATISFIED ARE YOU WITH YOUR SLEEP?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	3	6.0	6.0	6.0
	DISSATISFIED	8	16.0	16.0	22.0
	NEITHER SATISFIED NOR DISSATISFIED	15	30.0	30.0	52.0
	SATISFIED	24	48.0	48.0	100.0
	Total	50	100.0	100.0	

Table 4.14

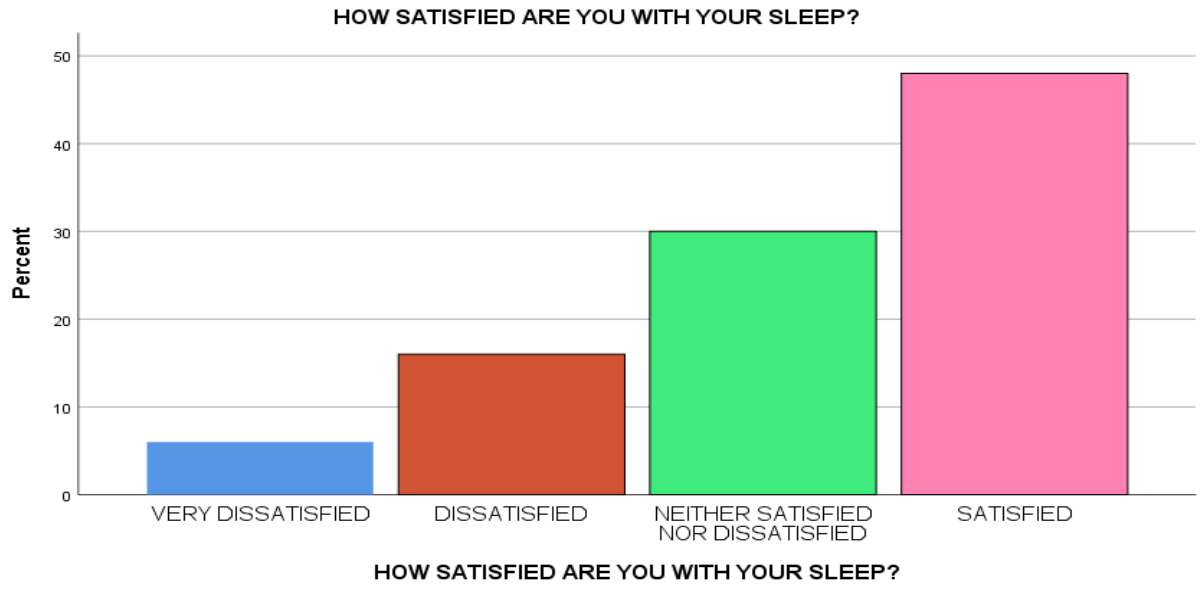


Chart 14

According to the study 48 % of the participants enjoyed a sound sleep where only 22 percent had a disturbed sleep but 30 % where neither satisfied not dissatisfied.

6. HOW SATISFIED ARE YOU WITH YOUR ABILITY TO PERFORM YOUR DAILY LIVING ACTIVITIES?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	6	12.0	12.0	12.0
	DISSATISFIED	12	24.0	24.0	36.0
	NEITHER SATISFIED NOR DISSATISFIED	21	42.0	42.0	78.0
	SATISFIED	11	22.0	22.0	100.0
	Total	50	100.0	100.0	

Table 4.15

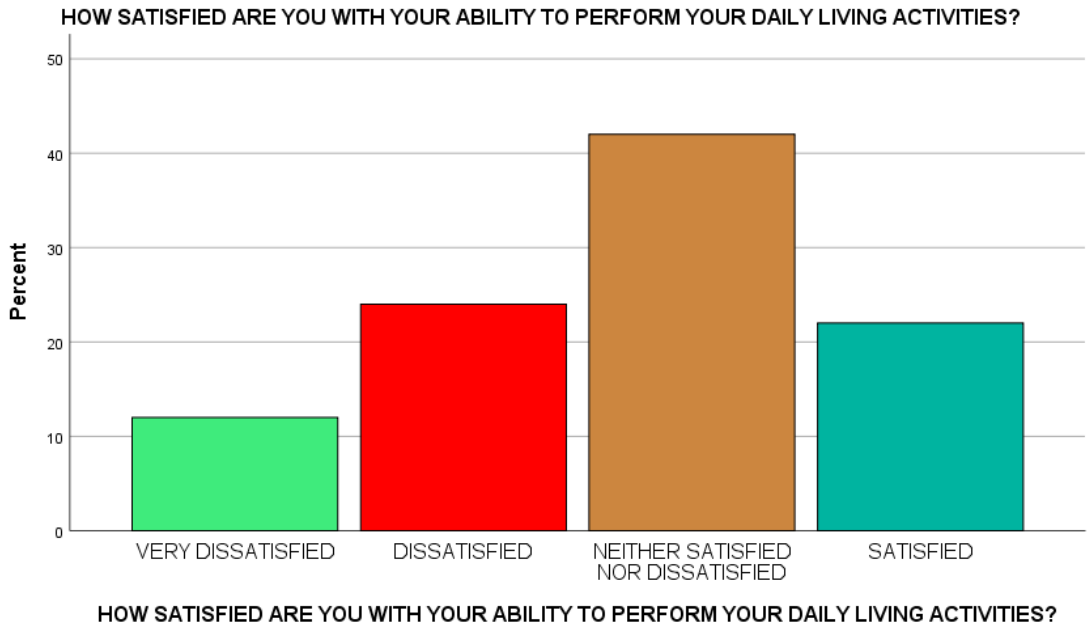


Chart 15

There is a marked dissatisfaction (36%) in performing the ADL. Whereas 42 % participantswere not able to identify that they are satisfied or dissatisfied. Only 22 % people where satisfied.

4.4 SOCIAL FACTORS

1. HOW SATISFIED ARE YOU WITH YOUR PERSONAL RELATIONSHIPS?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	3	6.0	6.0	6.0
	DISSATISFIED	8	16.0	16.0	22.0
	NEITHER SATISFIED NOR DISSATISFIED	20	40.0	40.0	62.0
	SATISFIED	19	38.0	38.0	100.0
	Total	50	100.0	100.0	

Table 4.16

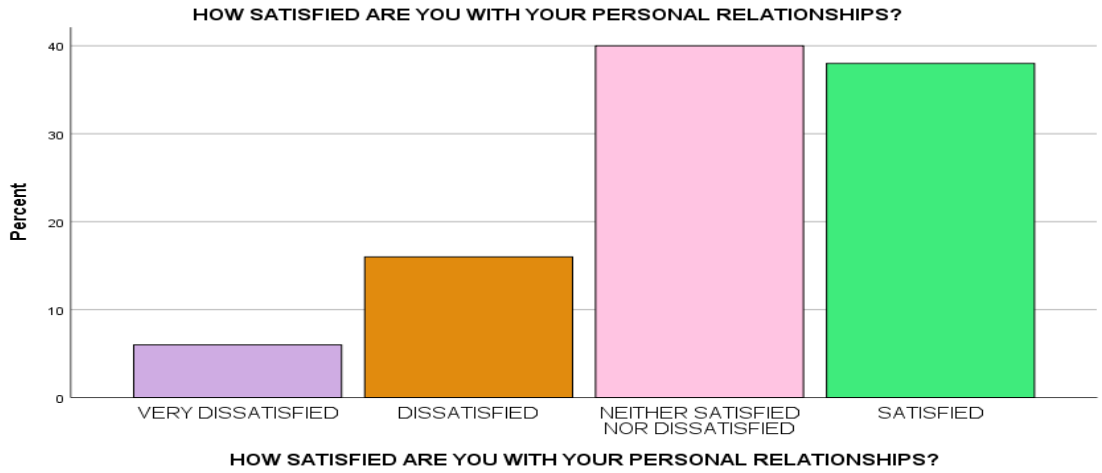


Chart 16

38% people where highly satisfied with their personal relationships, where as 22 % were dissatisfied and 40% were not able to make out a difference.

2. HOW SATISFIED ARE YOU WITH THE SUPPORT YOU GET FROM YOUR FRIENDS?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	2	4.0	4.0	4.0
	DISSATISFIED	3	6.0	6.0	10.0
	NEITHER SATISFIED NOR DISSATISFIED	24	48.0	48.0	58.0
	SATISFIED	21	42.0	42.0	100.0
	Total	50	100.0	100.0	

Table 4.17

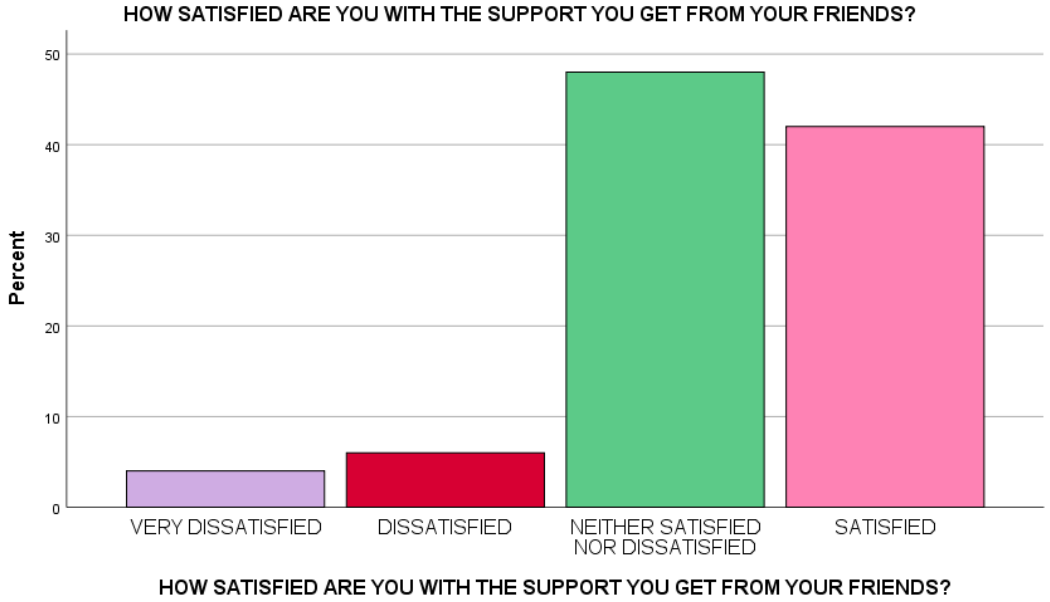


Chart 17

According to this study 42% participants were satisfied in getting support from their friends, only 10 % where dissatisfied in finding support from friends.

3. HOW SATISFIED ARE YOU WITH YOUR SEX LIFE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	8	16.0	16.0	16.0
	DISSATISFIED	7	14.0	14.0	30.0
	NEITHER SATISFIED NOR DISSATISFIED	28	56.0	56.0	86.0
	SATISFIED	7	14.0	14.0	100.0
	Total	50	100.0	100.0	

Table 4.18

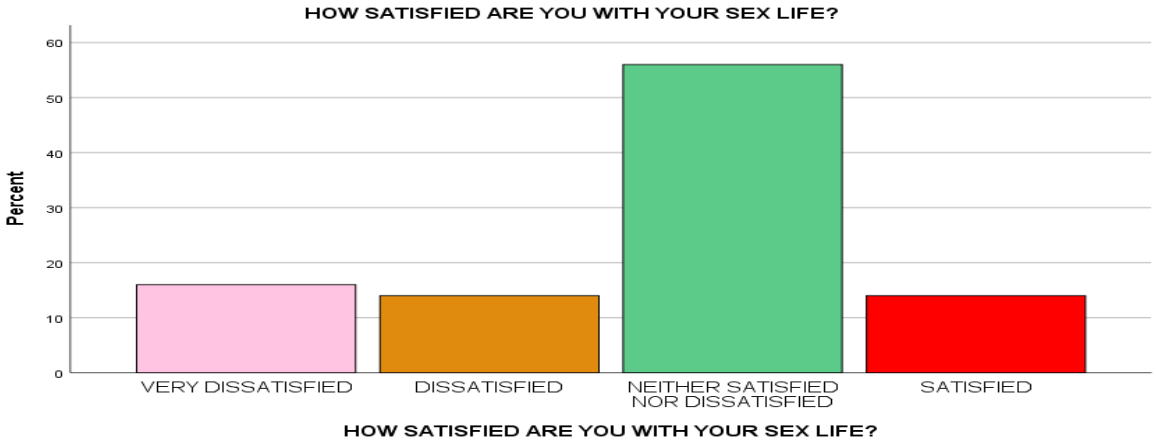


Chart 18

30 % participants were not happy with their sex life, only 14% showed satisfaction, on the other hand huge number of participants (56%) did not choose sides.

4. HOW MUCH DO YOU ENJOY LIFE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	4	8.0	8.0	8.0
	A LITTLE	6	12.0	12.0	20.0
	MODERATE	16	32.0	32.0	52.0
	VERY MUCH	24	48.0	48.0	100.0
	Total	50	100.0	100.0	

Table 4.19

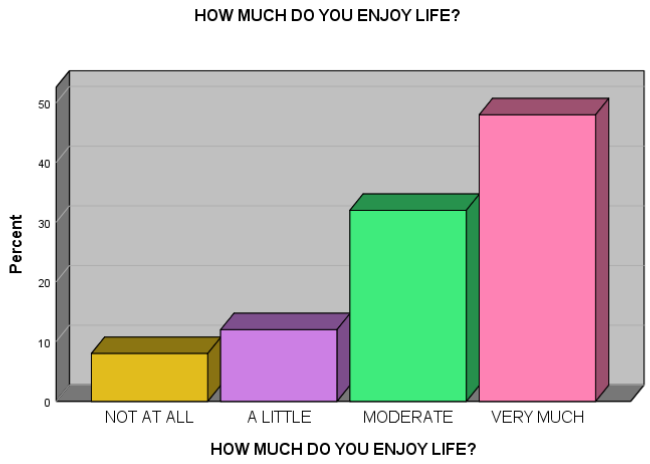


Chart 19

Nearly half of the participants (48%) are enjoying their life followed by 32% persons who had a moderate enjoyment in their in life.

5. HOW AVAILABLE TO YOU IS THE INFORMATION THAT YOU NEED IN YOUR DAY TO DAY LIFE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	3	6.0	6.0	6.0
	A LITTLE	7	14.0	14.0	20.0
	MODERATELY	19	38.0	38.0	58.0
	MOSTLY	21	42.0	42.0	100.0
	Total	50	100.0	100.0	

Table 4.20

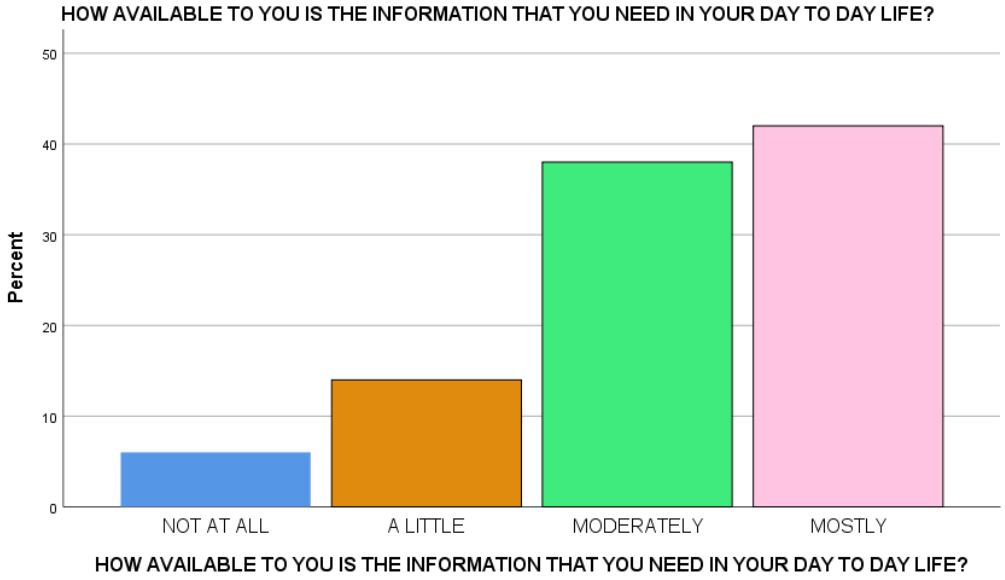


Chart 20

About 42% participants where highly satisfied with the information they needed for their day to day life where as 38% were moderately satisfied and about 14 % had less information and 6 % were not at all satisfied from the information provided to them.

6. TO WHAT EXTENT DO YOU HAVE THE OPPORTUNITY FOR LEISURE ACTIVITES?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	12	24.0	24.0	24.0
	A LITTLE	12	24.0	24.0	48.0
	MODERATELY	11	22.0	22.0	70.0
	MOSTLY	15	30.0	30.0	100.0
	Total	50	100.0	100.0	

Table 4.21

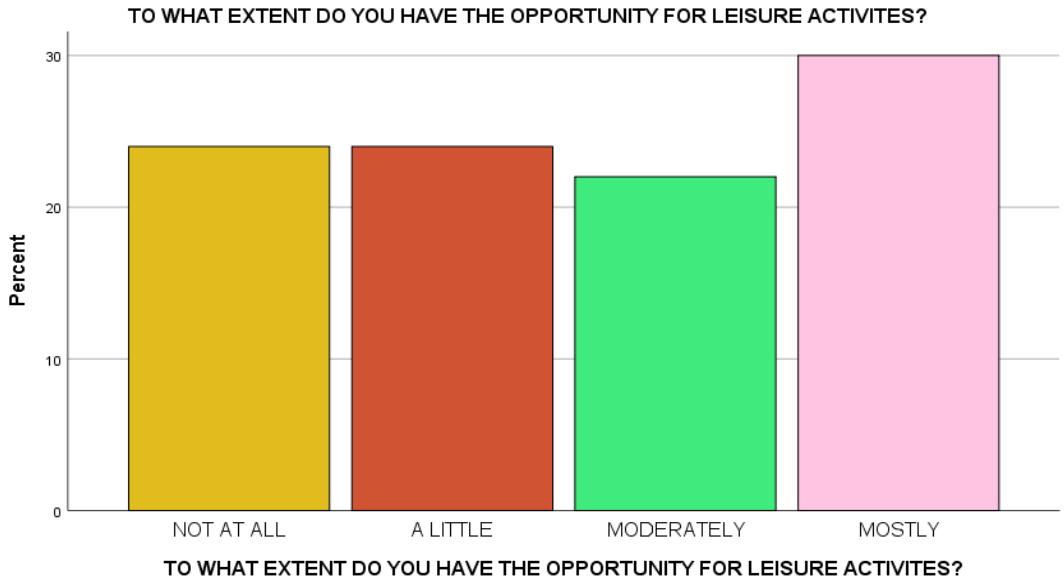


Chart 21

Nearly all the participants showed same results, however 30% claimed that they have good opportunity for leisure activities

.

7. HOW WELL ARE YOU ABLE TO GET AROUND?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY POOR	3	6.0	6.0	6.0
	POOR	4	8.0	8.0	14.0
	NEITHER POOR NOR GOOD	24	48.0	48.0	62.0
	GOOD	19	38.0	38.0	100.0
	Total	50	100.0	100.0	

Table 4.22

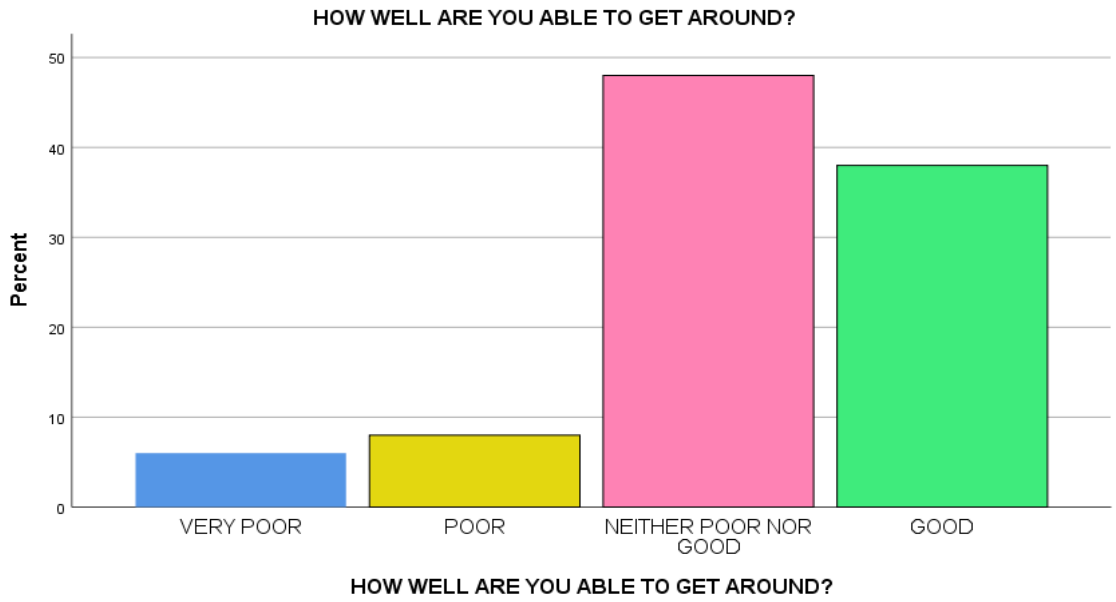


Chart 22

38% people were getting around in a good manner but 14% felt other way around, whereas majority (48%) were not able to rate it.

8. HOW SATISFIED ARE YOU WITH YOUR PERSONAL RELATIONSHIPS?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	3	6.0	6.0	6.0
	DISSATISFIED	8	16.0	16.0	22.0
	NEITHER SATISFIED NOR DISSATISFIED	20	40.0	40.0	62.0
	SATISFIED	19	38.0	38.0	100.0
	Total	50	100.0	100.0	

Table 4.23

Satisfaction was observed by 38 % in their personal relationships whereas 22% were dissatisfied, and about 40% were neutral.

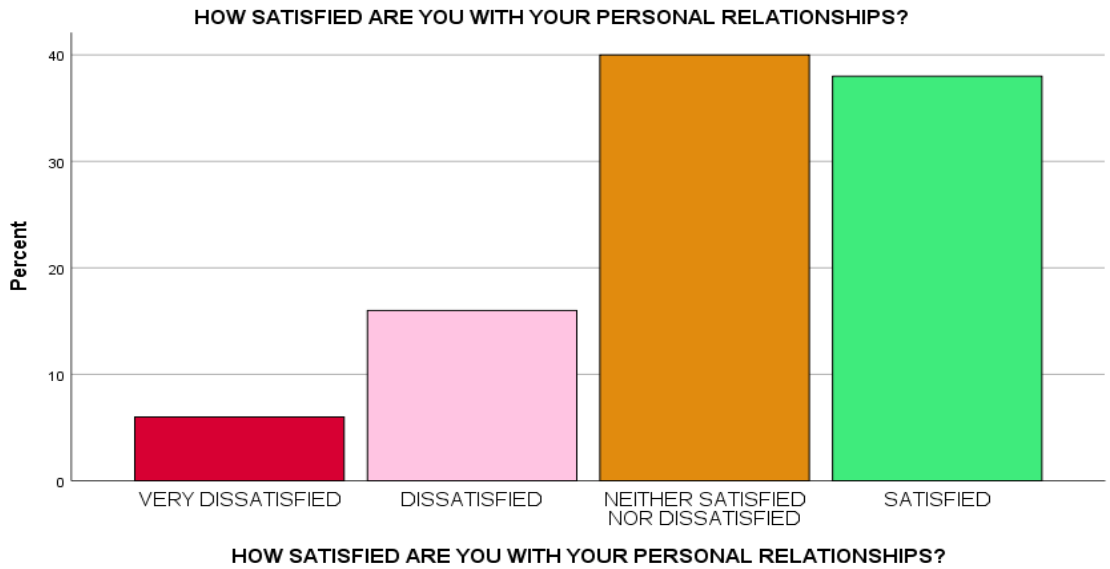


Chart 23

PSYCHOLOGICAL FACTORS

1. HOW SATISFIED ARE YOU WITH YOUR HEALTH

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	2	4.0	4.0	4.0
	DISSATISFIED	8	16.0	16.0	20.0
	NEITHER SATISFIED NOR DISSATISFIED	16	32.0	32.0	52.0
	SATISFED	24	48.0	48.0	100.0
	Total	50	100.0	100.0	

Table 4.24

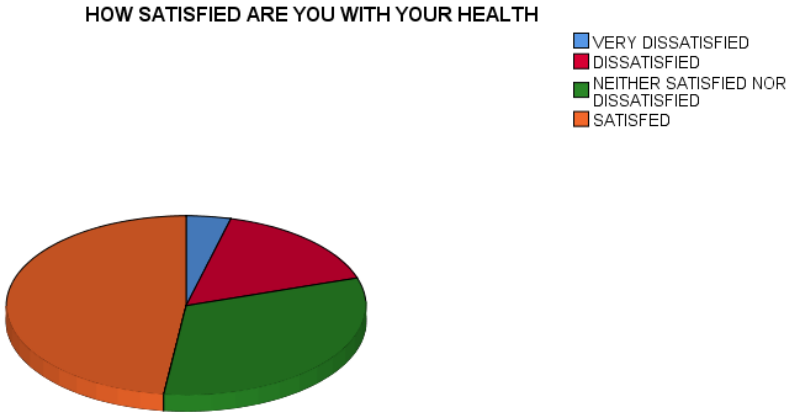


Chart 24

Among the participants 48 % reported satisfaction with their health, While 20 % were dissatisfied.

2. HOW SAFE DO YOU FEEL IN YOUR DAILY LIFE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	3	6.0	6.0	6.0
	A LITTLE	3	6.0	6.0	12.0
	MODERATE	16	32.0	32.0	44.0
	VERY MUCH\	28	56.0	56.0	100.0
	Total	50	100.0	100.0	

Table4.25

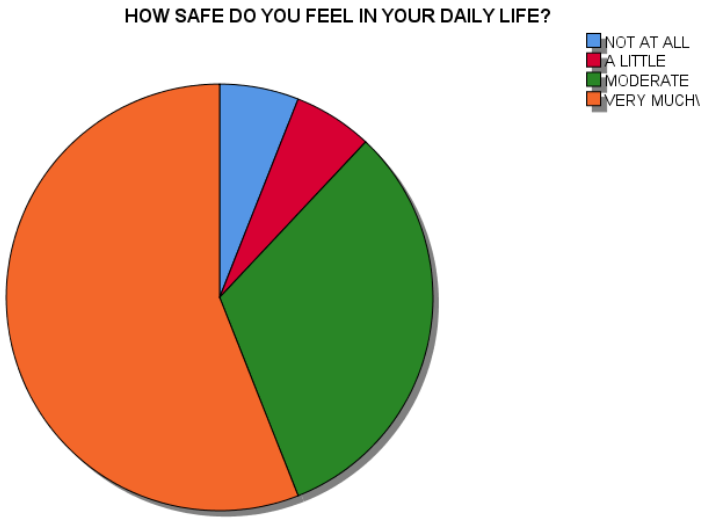


Chart 25

According to this study 56% people felt high safety in their daily life, 12 % felt a little to not safe, where as 32 % felt moderately safe.

3. ARE YOU ABLE TO ACCEPT YOUR BODILY APPEARANCE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	4	8.0	8.0	8.0
	A LITTLE	3	6.0	6.0	14.0
	MODERATELY	19	38.0	38.0	52.0
	MOSTLY	24	48.0	48.0	100.0
	Total	50	100.0	100.0	

Table 4.26

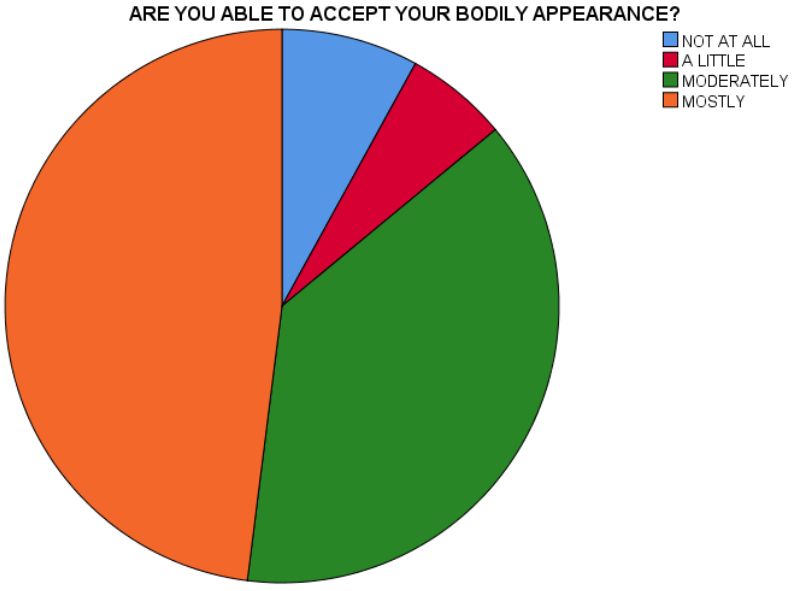


Chart 26

Nearly half of the participants (48%) reported that they are able to accept their bodily appearance followed by 38% who reported moderate satisfaction with their appearance. Only a total of 14% reported a little or no satisfaction in their bodily appearance.

4. HOW SATISFIED ARE YOU WITH YOURSELF?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	3	6.0	6.0	6.0
	DISSATISFIED	5	10.0	10.0	16.0
	NEITHER SATISFIED NOR DISSATISFIED	18	36.0	36.0	52.0
	SATISFIED	24	48.0	48.0	100.0
	Total	50	100.0	100.0	

Table 4.27

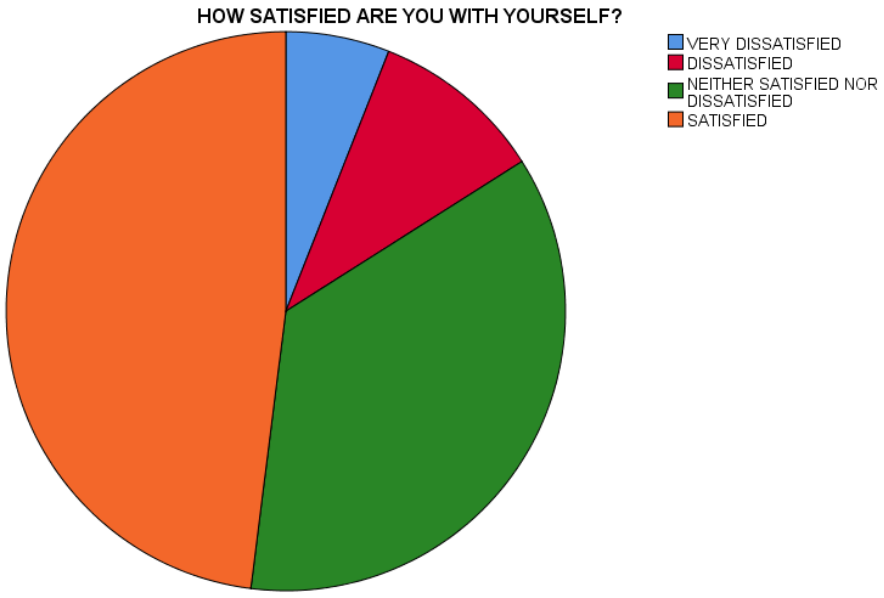


Chart 27

According to the study nearly half of the participants (48%) were self-satisfied. A total of 16% were found to be unsatisfied where as 36% were unable to differentiate.

5. HOW OFTEN DO YOU HAVE NEGATIVE FEELINGS SUCH AS BLUE MOOD, DESPAIR, ANXIETY AND DEPRESSION?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NEVER	15	30.0	30.0	30.0
	SELDOM	5	10.0	10.0	40.0
	QUITE OFTEN	20	40.0	40.0	80.0

Table 4.28

	VERY OFTEN	10	20.0	20.0	100.0
	Total	50	100.0	100.0	

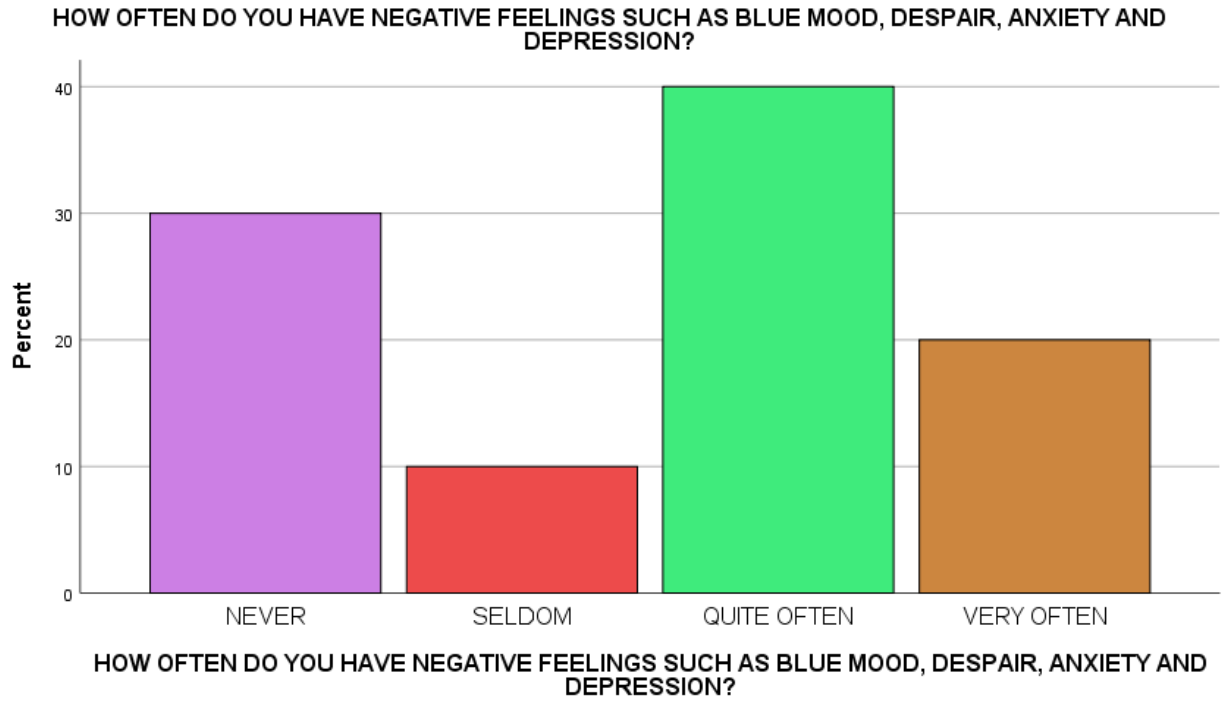


Chart 28

6. TO WHAT EXTENT DO YOU FEEL YOUR LIFE TO BE MEANINGFUL?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NOT AT ALL	4	8.0	8.0	8.0
	A LITTLE	5	10.0	10.0	18.0
	MODERATE	19	38.0	38.0	56.0
	VERY MUCH	22	44.0	44.0	100.0
	Total	50	100.0	100.0	

Table 4.29

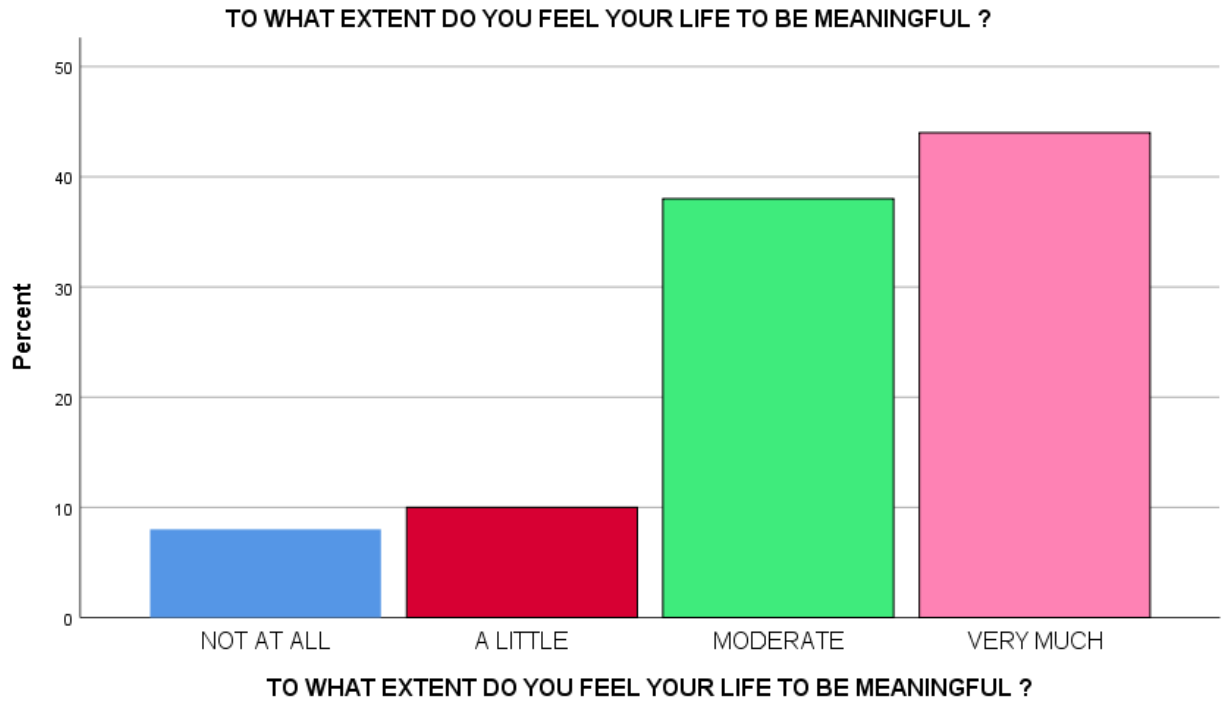


Chart 29

According to this study about 82% people feel that their life is meaningful rated moderate to high. Whereas 10% feel it's a little and sadly 8% feel that their life is meaningless.

ENVIRONMENTAL FACTORS

1. **HOW SATISFIED ARE YOU WITH THE CONDITIONS OF YOUR LIVING PLACE?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	2	4.0	4.0	4.0
	NEITHER SATISFIED NOR DISSATISFIED	19	38.0	38.0	42.0
	SATISFIED	29	58.0	58.0	100.0
	Total	50	100.0	100.0	

Table 4.30

More than half of the participants were satisfied by the conditions of their living place and only 4 % were dissatisfied.

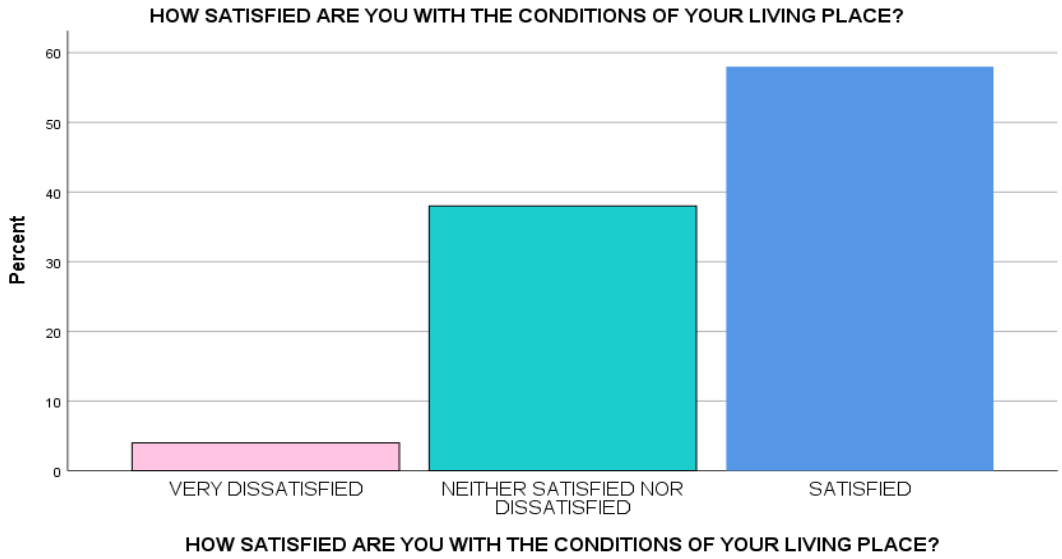


Chart 30

2. HOW SATISFIED ARE YOU WITH YOUR ACCESS TO HEALTH SERVICES?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	1	2.0	2.0	2.0
	NEITHER SATISFIED NOR DISSATISFIED	16	32.0	32.0	34.0
	SATISFIED	33	66.0	66.0	100.0
	Total	50	100.0	100.0	

Table 4.31

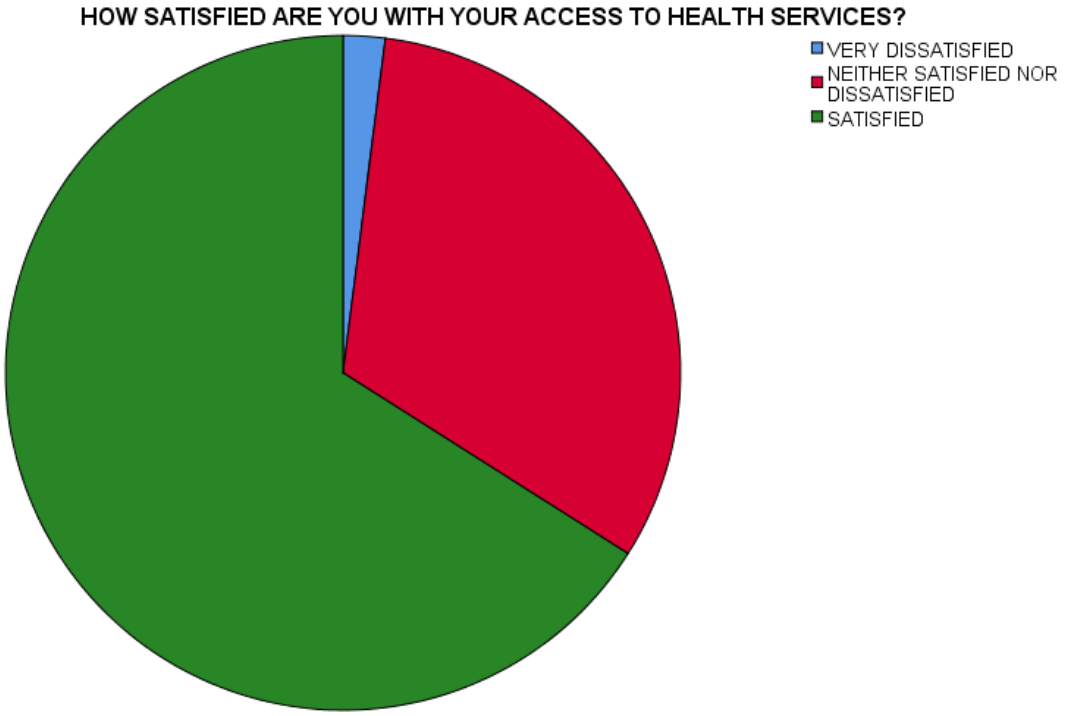


Chart 31

66% participants are satisfied with the access to health services that they have and just 2 % were very dissatisfied.

3. HOW SATISFIED ARE YOU WITH YOUR TRANSPORT?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY DISSATISFIED	4	8.0	8.0	8.0
	NEITHER SATISFIED NOR DISSATISFIED	13	26.0	26.0	34.0
	SATISFIED	33	66.0	66.0	100.0
	Total	50	100.0	100.0	

Table 4.32

66% participants were satisfied with the transport facility though 26% were not able to take a side. However 8 % were dissatisfied.

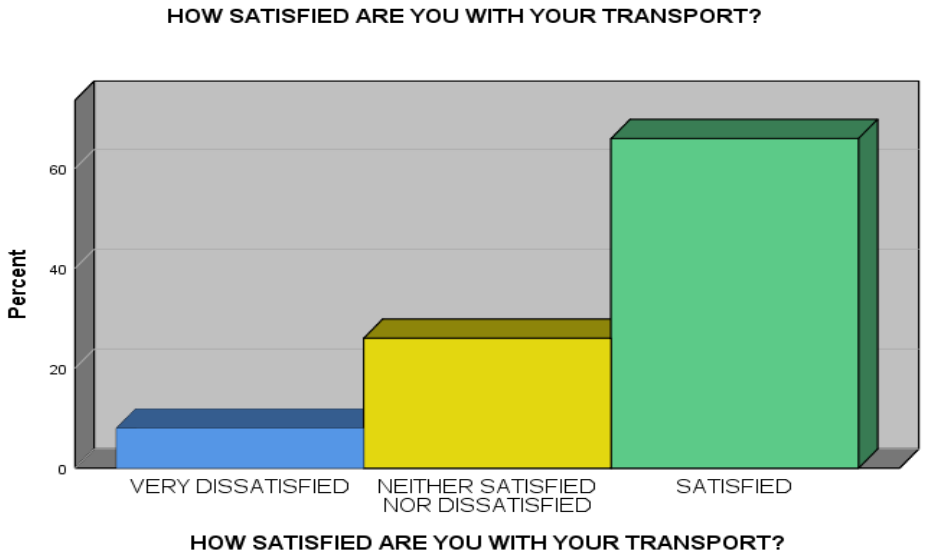


Chart 32

4. HOW WOULD YOU RATE YOUR QUALITY OF LIFE?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY POOR	4	8.0	8.0	8.0
	POOR	3	6.0	6.0	14.0
	NIETHER POOR NOR GOOD	12	24.0	24.0	38.0
	GOOD	31	62.0	62.0	100.0
	Total	50	100.0	100.0	

Table 4.33

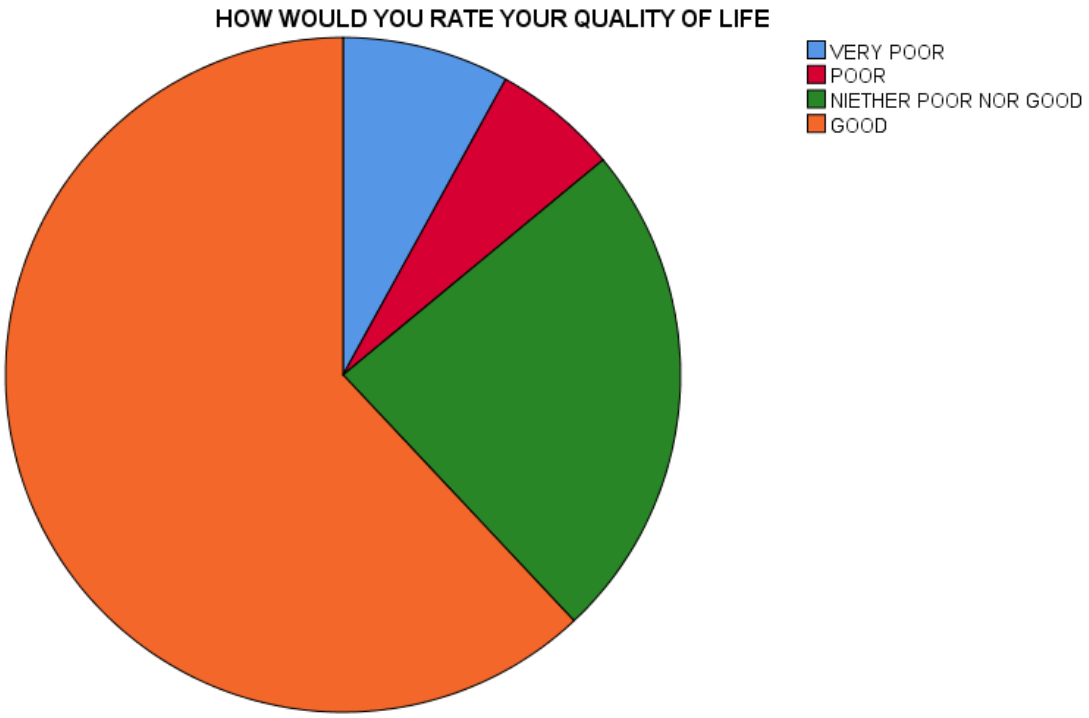


Chart 33

Analysis for the above data shows that fairly 62% people rated to have good quality of life, whereas, 14% had a negative result. On the other hand 24% were not able to rate.

CORRELATIONS BETWEEN EDUCATION STATUS AND QUALITY OF LIFE

			EDUCATION LEVEL	HOW WOULD YOU RATE YOUR QUALITY OF LIFE
Spearman's rho	EDUCATION LEVEL	Correlation Coefficient	1.000	.407**
		Sig. (2-tailed)	.	.003
		N	50	50
	HOW WOULD YOU RATE YOUR QUALITY OF LIFE	Correlation Coefficient	.407**	1.000
		Sig. (2-tailed)	.003	.
		N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.34

Statistical analysis of correlation between education status and quality of life has a value of 0.407, which shows a moderately significant positive correlation between them.

CORRELATIONS BETWEEN AGE AND QUALITY OF LIFE

			HOW WOULD YOU RATE YOUR QUALITY OF LIFE	AGE
Spearman's rho	HOW WOULD YOU RATE YOUR QUALITY OF LIFE	Correlation Coefficient	1.000	-.364**
		Sig. (2-tailed)	.	.009
		N	50	50
	AGE	Correlation Coefficient	-.364**	1.000
		Sig. (2-tailed)	.009	.
		N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.35

Age and quality of life has negative relationship with each other. With a value of -.364 showing mild relationship between them which is significant at 0.009 level.

Correlations BETWEEN HOW WOULD YOU RATE THE QUALITY OF LIFE AND YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED.

			HOW WOULD YOU RATE YOUR QUALITY OF LIFE	YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED
Spearman's rho	HOW WOULD YOU RATE YOUR QUALITY OF LIFE	Correlation Coefficient	1.000	-.133
		Sig. (2-tailed)	.	.356
		N	50	50
	YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED	Correlation Coefficient	-.133	1.000
		Sig. (2-tailed)	.356	.
		N	50	50

Table 4.36

An evident mild relationship with a value of -1.33 is seen between quality of life and the duration of health problems, in which as the duration increases the quality of life decreases.

Correlations between duration of health problems and negative feeling

			YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED	HOW OFTEN DO YOU HAVE NEGATIVE FEELINGS SUCH AS BLUE MOOD, DESPAIR, ANXIETY AND DEPRESSION?
Spearman's rho	YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED	Correlation Coefficient	1.000	-.156
		Sig. (2-tailed)	.	.286
		N	50	49
	HOW OFTEN DO YOU HAVE NEGATIVE FEELINGS SUCH AS BLUE MOOD, DESPAIR, ANXIETY AND DEPRESSION?	Correlation Coefficient	-.156	1.000
		Sig. (2-tailed)	.286	.
		N	49	49

Table 4.37

The statistical analysis between YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED and HOW OFTEN DO YOU HAVE NEGATIVE showed a mild negative relationship between them with a value of -.156.

Correlations BETWEEN YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED AND HOW SATISFIED ARE YOU WITH YOUR SEX LIFE?

			YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED	HOW SATISFIED ARE YOU WITH YOUR SEX LIFE?
Spearman's rho	YEARS SINCE THE HEALTH PROBLEMS WAS PRESENTED	Correlation Coefficient	1.000	-.326*
		Sig. (2-tailed)	.	.021
		N	50	50

	HOW SATISFIED ARE YOU WITH YOUR SEX LIFE?	Correlation Coefficient	-.326*	1.000
		Sig. (2-tailed)	.021	.
		N	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.38

The sex life of the patients were affected as the years increased since the health problems was presented, with a statistical value of -3.26 showing moderate relationship among them.

4.12 Correlations BETWEEN THE QUALITY OF LIFE AND SUPPORT FROM FRIENDS

			HOW WOULD YOU RATE YOUR QUALITY OF LIFE	HOW SATISFIED ARE YOU WITH THE SUPPORT YOU GET FROM YOUR FRIENDS?
Spearman's rho	HOW WOULD YOU RATE YOUR QUALITY OF LIFE	Correlation Coefficient	1.000	.108
		Sig. (2-tailed)	.	.455
		N	50	50
	HOW SATISFIED ARE YOU WITH THE SUPPORT YOU GET FROM YOUR FRIENDS?	Correlation Coefficient	.108	1.000
		Sig. (2-tailed)	.455	.
		N	50	50

Table 4.39

As the support from the friends increases the quality of life also increases, With a value of 0.108.

CHAPTER 5

DISCUSSION

ESRD imposes substantial effects on the patient's quality of life by negatively affecting their financial, social, and psychological wellbeing. The disease also can have impact on patient's overall quality of life and other domains like physical, functional, social and mental status. Previous relevant research compared both modalities as well showed that patients undergoing hemodialysis or peritoneal dialysis treatment were found to experience quality of life deficits.

Thus, we need an approach to treat hemodialysis patients involving qualified and dedicated multidisciplinary team to improve their quality of life effectively. In this study, the quality of life is evaluated in hemodialysis patients with reference to their physical, psychological, social, and environmental health dimensions. Also, factors associated with quality of life among ESRD patients on hemodialysis are determined. This study investigated the overall and different aspects of quality of life of ESRD patients on hemodialysis and to evaluate their lifestyle and social relationship.

Dialysis regulates the patients' general condition and fluid-electrolytes balance, assures the disposal of accumulated toxic substances in the body, facilitates the patient' continued healthy life, and prepares the patient for the transplantation. During this stage of treatment, there are two considerations: to increase both the quality of life and the life expectancy. To improve and enhance the quality of life through dialysis or transplantation, a well-planned exercise program also must be included. As the exercise program entails a risk in itself, the implemented program must be carefully planned, coordinated, and supervised based on health related fitness in this population.

There are many exercise training studies in patients with end-stage renal disease on hemodialysis, but exercise type and planning are open to discussion in this population. But it is clear that, physiotherapists are responsible from suitable exercise programs in inpatient and outpatient renal clinics.

There is a marked increase in ESRD patients in Arar, it was noted by the researcher during the clinical practice. While providing treatment to the patients as per our hospital protocol the researcher found physical, psychological and social disturbances in their wellbeing. By conducting a study based on these discrepancies we would be able to correlate to an excellent intervention towards enhancing the quality of life of ESRD patients. These problems motivated us to conduct this study.

Baseline data of the clients include the data such as age, sex, religion, education , marital status, dietary habits and personal habits.

In this study we collected age, gender, and marital status, number of children, educational level and occupational status. Among the participants majority of them were above 60 years followed by the age group between 31- 60 years. The distribution of participants among male and female were found to be equal while

doing the analysis. More than half of the participants were leading a married life (58%) . The numbers of unmarried and widowed were nearly equal with 20% and 18% respectively. Majority of the participants had more than 2 children. However 38% of the participants were uneducated, but 52 % were undergraduate. Majority of the participants with 66% were unemployed and stated the diagnosis of the disease and the treatment be the reason for the same. 20 % were employed in the state and private sector with 16 and 4 % respectively. Majority (86%) of the patients underwent dialysis thrice weekly for 3 hours. This study shows that 62% people were suffering from health issues since 2 to 5 years Analysis shows that fairly 62% people rated to have good quality of life, whereas, 14% had a negative result. On the other hand 24% were not able to rate.

32 % of the total participants were suffering from moderate pain and one by forth were in agony which prevented them from performing the activities what they had to do. 28% of them reported no pain at all.

80 % people had dependency, moderate to high, on medication to perform activities of daily living, whereas 6 % of them needed a little medical support while 14 percent needed no medical treatment at all. 80 % people felt a healthy environment where as 10 % felt a hostile environment. Nearly half of the participants (48%) reported moderate energy level while doing the activities of daily living. One by forth of them (28%) reported good energy level. It was unfortunate that a total of 28% complained a little or no energy level for meeting the activities of daily living. According to the study 48 % of the participants enjoyed a sound sleep where only 22 percent had a disturbed sleep but 30 % where neither satisfied not dissatisfied. There is a marked dissatisfaction (36%) in performing the ADL. Whereas 42 % participants were not able to identify that they are satisfied or dissatisfied. Only 22 % people where satisfied.

Nearly half of the participants (48%) are enjoying their life followed by 32% persons who had a moderate enjoyment in their in life. About 42% participants where highly satisfied with the information they needed for their day to day life where as 38% were moderately satisfied and about 14 % had less information and 6 % were not at all satisfied from the information provided to them. Nearly all the participants showed same results, however 30% claimed that they have good opportunity for leisure activities, 38% people were getting around in a good manner but 14% felt other way around, whereas majority (48%) were not able to rate it. Satisfaction was observed by 38 % in their personal relationships whereas 22% were dissatisfied, and about 40% were neutral.

Among the participants 48 % reported satisfaction with their health, While 20 % were dissatisfied. 56% people felt high safety in their daily life, 12 % felt a little to not safe, where as 32 % felt moderately safe. Nearly half of the participants (48%) were self-satisfied. A total of 16% were found to be unsatisfied where as 36% were unable to differentiate. Among the study participants 60% were found to be suffering from some kind of blue mood, despair, anxiety and depression. A total of 40%, reported seldom or no negative feelings as stated above. This study shows about 82% people feel that their life is meaningful rated moderate to high. Whereas 10% feel it's a little and sadly 8% feel that their life is meaningless. More than half of the participants

were satisfied by the conditions of their living place and only 4 % were dissatisfied. 66% participants are satisfied with the access to health services that they have and just 2 % were very dissatisfied. 66% participants were satisfied with the transport facility though 26% were not able to take a side. However 8 % were dissatisfied.

Finally, Analysis shows that nearly half of the participant's quality of life was affected even though they are continuing with hemodialysis. Pain is the most common physical problem faced by them and they reported a high dependency on medications to cope up with the activities of daily living. Nearly half of the participants were enjoying their life and their leisure activities. Almost half of them were leading a safe satisfied life.

Thus, the physiotherapist and rehabilitation plays a very vital role in elevating the quality of life of patients with the end stage renal disease.

CHAPTER 6

CONCLUSIONS

Information about the quality of life of patients having various types of renal replacement therapy will assist physicians, physiotherapists, rehabilitation specialists, nurses, patients and their families to make decisions on treatment selection. There is a need to establish support groups for patients having renal replacement therapy in order to enhance their quality of life, especially in the psychological domain.

End stage renal disease (ESRD) is considered as a permanent deterioration in renal function. It is considered a deadly and life-threatening illness, in which the survival can only be sustained by hemodialysis (HD) or peritoneal dialysis. Therefore, the therapy options are limited to either dialysis or renal transplant. End stage renal disease is a lifelong illness that requires continuity of care that includes renal replacement therapy, education, and restriction of food and fluid intake. It is a dreadful sequel of chronic renal failure. Therefore, it has a tremendous impact on the affected patients regarding QOL, morbidity, and mortality.

The outcome of the study is very encouraging as most of the patients express their satisfaction on the available counseling services and its impact on their QOL. The study limitations were small sample size and confinement to Arar, northern borders region of the Kingdom of Saudi Arabia. Being an urban area, in general and capital city, in particular, it is a fact that the best medical facility including the high quality of counseling is possible to be provided to the patients, however, it is a time to disseminate similar facility to other parts of the Kingdom to achieve good quality of life in patients with ESRD under dialysis.

Renal failure has a great impact on patients' health. Data from the literature suggests that the health status among patients suffering from ESRD is very low when compared to the health status of the normal population. This is the reason why health related quality of life (HRQOL) has gained such high attention. In patients with renal failure, some health interventions aim to improve the QOL more than treating the underlying pathology and complications. Therefore, the subjectivity of HRQOL evaluation is noted.

As Hemodialysis is a long-term process, patients affected with renal failure need to make various alterations in how they live their life in order to be able to cope with their illness and manage its complications. For this reason, QOL is more than just the overall health status of a patient. As health is only one of the elements that may affect the overall QOL, there are other important factors that must be considered. These include a patient's family and social status, medical and financial, as well as emotional well-being. Therefore, renal replacement therapy by itself cannot adequately achieve all the required results unless there is adequate participation of the affected patients themselves in carrying out the different activities that relate to their own self-care.

The active involvement of patients in their technique of treatment and management is an essential component to the overall improvement of their QOL, as it plays a major

role in raising a patient's awareness of their disease. In spite of the much research dealing with the QOL of dialysis patients, in Saudi Arabia such studies are still few.

The mortality among dialysis patients is 6.1 – 7.8 times higher than that for individuals in the general age-matched population. In Saudi Arabia, the incidence and prevalence of ESRD have increased in the last three decades probably due to factors such as an increase in life expectancy, rapid changes in lifestyle, urbanization, and high population growth. At the end of 2014, there were a total of 15,782 dialysis patients treated in 187 dialysis centers in the Kingdom of Saudi Arabia, 14,366 of them are treated by HD, and the remaining 1,416 by peritoneal dialysis.

LIMITATIONS

Assessment of Quality of Life of patients on hemodialysis with ESRD was featured in this study. However, this study was limited to the patients who were been attended in the artificial kidney unit of Arar Central Hospital and North Medical Towers, Arar, Kingdom of Saudi Arabia for hemodialysis. As the study was restricted to a short time frame a purposive sampling method was used. In addition to it, all the samples in this study were undergoing hemodialysis for 3 hours.

RECOMMENDATION

CLINICAL SETTINGS

1. Benefits of intradialytic physiotherapy in reducing pain and quality of life of patients with chronic kidney disease.
2. Effect of a short strengthening exercise program on functional capacity and on quality of life of hemodialysis patients with ESRD
3. The effect of intradialytic exercises on quality of life of hemodialysis patients.
4. A comparison between quality of life of patients between patients on hemodialysis and peritoneal dialysis
5. Identification of religious and coping methods to deal with depression and quality of life of patients undergoing hemodialysis
6. Predictors of quality of life of patients on hemodialysis
7. Effect of structured interventions to improve the psychological wellbeing of patients on hemodialysis.

To conclude, hemodialysis in ESRD has a direct impact on the quality of life of the patients. There must be structured interventions to improve the psychological, social and physical wellbeing of patients on hemodialysis.

CHAPTER 7

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