Internship Training

at

DCDC Health Services Pvt. Ltd.

To assess the quality of life of patients on Maintenance Hemodialysis and determine the factors affecting it

by

Daimee Sethi

PG/16/011

Under the guidance of

Mrs. Kirti Udayai

Post Graduate Diploma in Hospital and Health Management

2016-18

International Institute of Health Management Research New Delhi

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DCDC HEALTH SERVICES PVT. LTD.
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The certificate is awarded to

Daimee Sethi

in recognition of having successfully completed
her Internship in the department of

OPERATIONS

and has successfully completed her Project on

To assess the quality of life of patients on maintenance hemodialysis and determine the factors affecting it

1 May 2018

DCDC Health Services Pvt. Ltd.

She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning

We wish him/her all the best for future endeavors

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Certificate of Approval

The following dissertation titled **"To assess the Quality of Life of Patients on Maintenance Hemodialysis and determine the factors affecting it"** at **"DCDC Health sevices Pvt. Ltd.** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Daimee Sethi student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at DCDC Health Services Pvt. Ltd. from 1 February 2018 to 30 April 2018.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

Dr Supten Sarbadhikari
Dean, Academics and Student Affairs
IIHMR, New Delhi

Mrs. Kirti Udayai
IIHMR, New Delhi

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled To assess the quality of life of patients on maintenance hemodialyis and determine the factors affecting it and submitted by Ms. Daimee Sethi, Enrollment No. PG/16/011 under the supervision of Mrs. Kirti Udayai for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 1 February 2018 to 30 April 2018 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

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Certificate from Dissertation Advisory Committee

This is to certify that **Ms. Daimee Sethi,** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. She is submitting this dissertation titled "To assess the Quality of Life of patients on maintenance hemodialysis and determine the factors affecting it" at **DCDC Health Services Pvt. Ltd.** in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Mrs. Kirti Udayai,
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FEEDBACK FORM

Name of the Student: Ms. Daimee Sethi

Dissertation Organization: DCDC Health Services Pvt. Ltd

Area of Dissertation: To assess the quality of life of patients on maintenance hemodialysis and determine the factors affecting it.

Attendance: Full

Objectives achieved: Her case helped us to evaluate the quality of life of patients at Hemodialysis

Deliverables: We shall be using the inferences from her report to work on improving the quality of life of patient

Strengths: Her intellectual thinking and team building

Suggestions for Improvement: Need to more pro-active in regards to inventory management

Suggestions for Institute (course curriculum, industry interaction, placement, alumni): Need for more Alumni meets as that will help in strengthening the relations among alumni and students and also much better placements

Signature of the Officer-in-Charge/ Organization Mentor

Date:
Place:

ACKNOWLEDGEMENTS

It is my esteemed pleasure to present this research project by thanking each and everyone who helped me in this task.

I would like to thank my guide **Mrs. Anshu Singh**, Operations Manager, DCDC Health Services Pvt. Ltd. who helped me immensely throughout the tenure of my dissertation internship. She rendered her valuable advice, precious time, knowledge and relevant information which enabled me to overcome every obstacle which came my way in the completion of this project.

I would also like to thank the extended team of DCDC Health Services Pvt. Ltd and Venkateshwar Hospital, for their unlisted encouragement and moreover their timely support and guidance till the completion of my project. Their active participation to all my questions and queries during my internship has made this journey a true success.

I would also like to acknowledge my mentor and teacher **Dr. Kirti Udayai** for enriching this project with her advice and suggestions.

I would also like to thank **My Family and friends** who supported me throughout in developing this project.

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List of Abbreviations

1. CRRT: Continuous Renal Replacement Therapy
2. OPD: Out Patient Department
3. IPD: In Patient Department
4. RO: Reserve Osmosis
5. QOL: Quality of Life
6. CKD: Chronic Kidney Disease
7. ERSD: End Stage Renal Disease
8. HD: Hemodialysis
9. WHO: World Health Organization
10. RRT: Renal Replacement Therapy
11. KT: Kidney Transplant
12. MHD: Maintenance Hemodialysis

Section 1

Organisational Profile

1.1. **ORGANIZATION PROFILE**

1.1.1. About DCDC Kidney care:

DCDC is one of the most trusted institutions in Dialysis care delivery in Delhi / NCR and rapidly expanding to establish wide network in all formats.

As an epitome of trust and compassionate care, the chain of Dialysis care always strives to excel with world class technology and expertise and aspires to bring to the community largest network of state of the art Haemodialysis facilities, dialysis centres sans comparison in India, under the banner of DCDC.

With standardized dialysis protocol, well trained renal professionals and backend technology procedures, 'DCDC' brings reliable, safe and effective dialysis with meticulously designed services.

Teamed with state of the art equipment, RO system and support on life style management, up-keeping the tradition of patient centricity and care, it provides quality treatment in shorter time without any compromises. Add to this a hygienic, homelike environment to make it the best in renal care.

Along with Dialysis, DCDC also endeavours to bring forward special services to support patients in organizing their lives better.

DCDC is the first dialysis institute in the country to offer home hemodialysis to patients at an affordable cost. Evidence from well-planned research studies clearly proves that home hemodialysis patients live longer than patients treated in a dialysis centre. There is also good evidence that the quality of life of these patients is much better.

1.1.2. About Venkateshwar Hospital:

At Venkateshwar Hospital, state of the art technology and dedicated medical practitioners have been brought together under one roof for giving ethical medical care. Equipped with the most modern equipment and Information Technology, our practitioners work together as a team to provide the best possible treatment to our patients.

After pioneering work in the education sector since long, this is another initiative of Venkateshwar Hospital that envisions great medical facilities with uncompromised care par excellence. Venkateshwar Hospital, Dwarka is an establishment of Venkateshwar Group located in the heart of Dwarka sub-city. We aim to achieve global excellence in healthcare with evidence-based ethical clinical practices. With a team of highly skilled professionals, we are focused on delivering uncompromised medical services to everyone. Equipped with the best infrastructure and medical facilities, aided by 325 Beds, 100 Critical Care Beds, 32 Specialties and 10 Modular OT's, we at Venkateshwar Hospital are committed to delivering world-class healthcare to all our patients.

1.1.3. About the Dialysis Unit:

Dialysis unit at Venkateshwar Hospital is outsourced to DCDC Health Services Pvt. LTD since February 2018. The unit is equipped with 10 hemodialysis machines and one CRRT machine. The unit runs four shifts a day, seven days a week. Along with daily OPD dialysis, the unit also caters to IPD and emergency dialysis.

1.1.4. Key Roles and Responsibilities:

As the Centre Manager of the dialysis unit at Venkateshwar Hospital, the responsibility of optimum functioning of the unit was bestowed upon me.

Following were my key roles and responsibilities:

1. To manage stock and carry out inventory planning
2. To manage the staff and their roster
3. To keep a track of the dialysis patients and prepare their treatment schedule
4. To keep track of the billing process and maintain the dialysis numbers
5. To ensure satisfaction of the staff as well as the patients
6. To upkeep the unit in terms of maintenance of the facility, the machines and the RO plant

7. To participate and plan expansion of the unit
8. To collaborate with the hospital in order to align the goals of DCDC and Venkateshwar Hospital
9. Maintaining registers and complete documentation
10. To maintain and improve the quality of operations
11. Resolve day to day issues hampering the functioning of the unit

1.1.5. Conclusive Learning:

1. The internship gave me a chance to learn about the overall management of the hospital
2. It gave me the opportunity to handle all the aspects of management i.e. operations, quality and HR.

Section 2

Dissertation Report

2.1. INTRODUCTION

Chronic kidney disease (CKD) is a devastating disease leading to intense physical morbidity associated with financial, social and emotional stress on the individual. A person having kidney damage or decreased kidney function for 3 months or more is known to be suffering from CKD. CKD when treated with either dialysis or transplantation, is generally referred to as “end- stage renal disease” (ESRD). The age-adjusted incidence rate of ESRD has been estimated to be 229/million population in India (1).

A disturbingly high burden of CKD has been reported by community-based studies in India. Approximately, 15% to 20% of persons 40 years of age or older have a reduced estimated glomerular filtration rate.

2.1.1. The burden of ERSD is high due to the elevated prevalence of diabetes and hypertension, which are both leading causes of ERSD. India has 150 patients with ESRD per annum per million population; which amounts to 16 000 patients with ESRD each year.

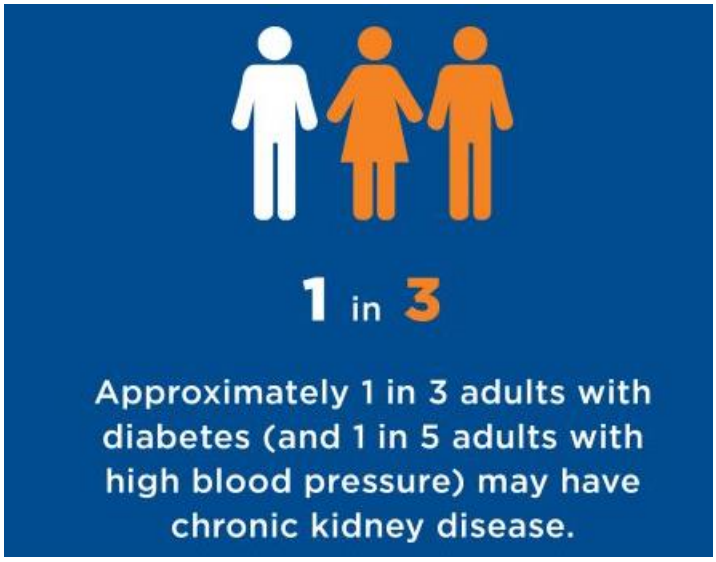

Figure 2.1.1: *https://nccd.cdc.gov/ckd/default.aspx*

2.1.2. The cost of dialysis is about Rs 1,50, 000 to Rs 2,00,000 per patient per annum, which leads to severe out of pocket expenditure and economic burden on patients.

Even in this day and age, there is no improvement in the knowledge about kidney diseases in India. For a population of 163 million, there are hardly 80 formally trained nephrologists (compared to the United States with more than 5000 nephrologists for a population of about 300 million).

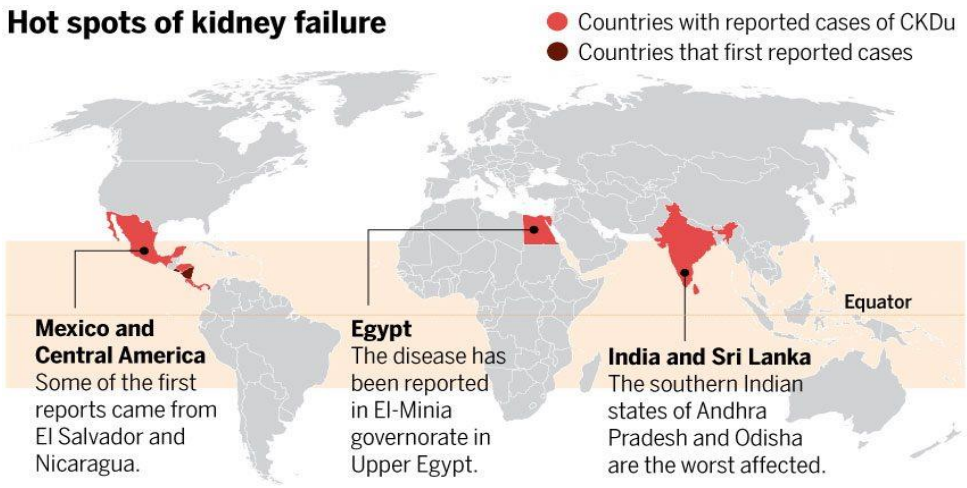

Figure 2.1.2: *http://www.sciencemag.org/news/2016/03/mysterious-kidney-disease-goes-global*

The heat map above indicates India as one of the countries with the maximum reported cases of CKD. Andhra Pradesh and Orissa are the worst affected states. The overall prevalence of CKD in India is about 17.2% with Hemodialysis (HD) becoming the most common type of renal replacement therapy. The provision of sufficient and safe patient treatment is the main purpose of hemodialysis. It contributes to the better physical condition of the patient and prevents further problems and complications that are due to uremia.

Hemodialysis has gained popularity over the years amongst patients with renal failure(2).

It still remains far from perfect therapy, despite its dramatic success at saving lives. More than 20% of the patients on patients die each year (3). In addition, it leads to very high morbidity with various complexities such as heart disease, hypertension, anemia, poor nutrition, depression, and impaired cognitive and physical function. Hemodialysis is usually done thrice a week in developed countries. However, in India HD is done twice a week for most patients. Not more than 20% of patients are dialyzed 3 times a week. Although it is well-known that increasing the frequency of dialysis improves the quality of life (QOL), it is not an option due to pressure from too many patients and inadequate hemodialysis machines. 2.2 Lakh new patients of ESRD are added in India every year. This results in further annual

demand for 3.4 Crore dialysis. There are approximately 4950 dialysis centres, most of which are in the private sector. With this infrastructure, more than half the demand for dialysis is left unmet (15). For this reason, the National Dialysis Programme was introduced in 2016 under NHM. The programme is aimed at providing free of cost dialysis to the poor. Public-private partnerships were established at many district hospitals, wherein the private partner provides medical human resource, dialysis machine along with Reverse Osmosis (RO) water plant infrastructure, dialyzer and consumables, while the space, power, and water supply is provided by the Government.

Nowadays, the focus of doctors is no longer only on the therapeutic effects. They lay emphasis on the psychological well being of the patients, that is improvement in survival quality.

There were a number of reasons which lead WHO to initiate the development of a quality of life assessment. In the recent years the focus in the measurement of health has broadened beyond the concepts of mortality and morbidity. Measures of the impact of disease and impairment on daily activities and behaviour have been included. Emphasis has been given to the perceived health measures and disability / functional status measures. By calling for quality of life assessments in health care, attention is focused on this aspect of health, and resulting interventions will pay increased attention to this aspect of patients' well-being. QOL assessment was developed to meet the need for a measure of quality of life which confirmed to the international standards. It reinforced the dedication to the promotion of a holistic approach to health and health care.

On these lines, World Health Organization (WHO) lead to the development of the QoL BREF questionnaire. The questionnaire was aimed at providing a standard measure to assess the quality of life. The score provides a measurement of functioning and well-being rather than of diseases and disorders, hence is more comprehensive and compatible with the WHO's concept of health. This score can act as an outcome measure to compare management strategies for different diseases. It allows the detailed assessment of each individual facet relating to the quality of life. The QoL of patients is measured broadly under four domains- Physical health, Psychological health, Social Relationships and

Environmental Health. The questionnaire consists of questions related to each of the above facets and the method of scoring each question to arrive at a composite QoL score for each of the four domains.

The availability of the QoL BREF in both interviewer and self-administered formats makes it easy to use depending on the needs of the study. The availability of the questionnaire in 19 different languages adds to its ease of use. The questionnaire has been checked for content validity and test-retest reliability, and has displayed good results for both.

The image below shows the facets incorporated under each of the four broad domains:

Domain	Facets incorporated within domains
1. Physical health	Activities of daily living Dependence on medicinal substances and medical aids Energy and fatigue Mobility Pain and discomfort Sleep and rest Work Capacity
2. Psychological	Bodily image and appearance Negative feelings Positive feelings Self-esteem Spirituality / Religion / Personal beliefs Thinking, learning, memory and concentration
3. Social relationships	Personal relationships Social support Sexual activity
4. Environment	Financial resources Freedom, physical safety and security Health and social care: accessibility and quality Home environment Opportunities for acquiring new information and skills Participation in and opportunities for recreation / leisure activities Physical environment (pollution / noise / traffic / climate) Transport

Figure 2.1.3: *http://www.who.int/mental_health/media/en/76.pdf*

2.2. GENERAL OBJECTIVE

To assess the quality of life of CKD patients on maintenance hemodialysis using WHOQOL-BREF and determine the factors affecting it.

2.3. SPECIFIC OBJECTIVES

2.3.1. To study the effect of gender on quality of life of HD patients

2.3.2. To study the effect of age on quality of life of HD patients

2.3.3. To study the effect of working status on quality of life of HD patients

2.3.4. To study the effect of co-morbidities on quality of life of HD patient

2.4. REVIEW OF LITERATURE

The WHO definition of QOL takes into consideration the individual's perception of their own life. It includes their culture, value systems, their goals, expectations and concerns(4). A person's quality of life is affected in complex ways by their physical health, psychological state, social relationships and their environment. All the emphasis in the general world is laid on the point that the patient receives some form of renal replacement therapy. The QOL parameter is thus ignored completely. However, now studies from Iran, Brazil, the Philippines and India, along with studies involving indigenous and disadvantaged populations in developed countries, have started coming up to examine patient perceptions of QOL(5).

The patients requiring dialysis annually has increased exponentially due to gradual increase in patients with chronic kidney diseases. The mortality and morbidity associated with CKD in India has improved due to hemodialysis, however the quality of life (QOL) parameter still remains unassessed. QOL research first began in Western countries, which resulted in accumulation of evidences on QOL over the years. However, India has ignored this issue for a long time. Though many analysis and studies have measured the QOL of hemodialysis patients, none have been carried out in Northern India. Emphasis has been placed on QOL in the recent years and it has become the topic of choice for research.

QOL research has proved a valuable tool in assessing the outcome of curative interventions in chronic diseases in the past few decades. ESRD is one such chronic disease which leads to impaired QOL as it causes a high level of disability in different domains of the patients' lives. The severity of symptoms has reduced with the increase in availability of various renal replacement therapies (RRT), thus, the survival

rate of ERSD patients has increased. However, quality of life (QOL) of the patients if affected by these therapies.

Hemodialysis requires fluid and dietary restrictions, is time-intensive as well as expensive. Loss of freedom and disruption of marital, family, and social life, is a common characteristic of long-term dialysis therapy. The expensive nature of the therapy also adds a financial burden on the patient. The private sector contributes to most of the dialysis units(16). Every dialysis cost anywhere in India between Rs. 1200 and Rs. 2000 per session (15). When calculating the cost of hemodialysis, it comes around Rs. 12 000 per month and 1 40 000 per year (17). In addition to this they have to pay for erythropoietin, lab test, consultation fee, etc. Due to these reasons, physical, psychological, socioeconomic, and environmental health of the patients are negatively affected, leading to severe derangement of QOL.

The Dialysis Registry of India 2008 report showed that there are about 6000 patients who are receiving dialysis in the country. This proves that only about 40% of the patients have access to dialysis services. Out of the patients who receive dialysis, most are "underdialyzed" (about 67% get dialysis twice per week). Underdialysis affects not only survival of the patients, but also adversely affects their quality of life (QOL). The problem of underdialysis however, cannot be addressed to improve QOL due to the shortage of trained staff and dialysis machines all together.

A study was conducted in Lahore, wherein the QoL of patients from three dialysis centres was compared using the WHOQOL-BREF. The study assessed the QOL of patients on hemodialysis and compared it with the caregivers of these patients. Along with this the cause of ESRD, the dialysis-related factors affecting QOL were also examined. The results showed that the QOL scores of the caregivers was higher than the dialysis patients in all domains apart from the environmental domain. The QOL of non-diabetic patients in physical health domain was better than the diabetic patients.

Suet – Ching WL conducted a study called quality of life for Hong Kong dialysis patients in 2001. The results of the study revealed that patients undergoing dialysis experienced multiple physical, social, economic and psychological changes. The marital status, type of modalities and age appear to have no

relationship with the quality of life. It was therefore concluded from the study that the priority of health care services should be to provide support in the areas of family, social life, information and employment. Studies have shown that there are many factors that affect QOL of these patients. Causes of ESRD, mode of the dialysis (hemodialysis versus peritoneal dialysis), adequacy of dialysis, daily dialysis, and nightly home hemodialysis all affect QOL of patients.

Studies have also shown that the types of renal replacement therapy affect the quality of life (QOL) in patients with ESRD. Compared to dialysis patients, patients having undergone kidney transplant (KT) achieved better QOL(6). The mental health and physical health dimensions of QOL are strongly associated with morbidity and mortality, among HD patients [7,8]. Another important factor that determining the QOL of patients undergoing dialysis treatment was found to be nutritional status. Other factors associated with QOL of HD patients are HD duration, age, ethnicity [9-11]. The studies conducted in developed countries when compared with those conducted in developing ones, have shown similar results. This suggests that the challenges faced by an ERSD patient may be independent of cultural background (4).

Apart from these factors, gender issues are also important. In many communities, women are discriminated against, have very limited access to health facilities and limited opportunities for education. They are also bound in terms of the support they receive from their families and friends. The assessment of QOL must take into consideration this important parameter.

A similar study was conducted in Nepal to assess the quality of life patients undergoing hemodialysis. The results were consistent with other studies showing that QOL is poor in hemodialysis patients. Demographic factors such as age, gender and education status have a strong bearing on the QOL. (12)

Studies have been carried out to contrast the QoL of patients on hemodialysis with that of the general population, patients having undergone other renal replacement therapies and patients with other chronic diseases (13). The results showed that the QoL of the general population as well those undergone renal transplant was much better than those on hemodialysis. However, the QoL of hemodialysis patients was found to be significantly better when compared with patients having a chronic disease (in this study,

asthma). The study also concluded that gender, education status and employment status have a significant effect on the QoL of hemodialysis patients.

2.5. METHODOLOGY

2.5.1. **Study design:** Cross sectional study

2.5.2. **Study area:** DCDC Dialysis unit, Venkateshwar Hospital

2.5.3. **Study Time Period:** 3 months (1 Feb 2018- 30 April 2018)

2.5.4. **Study Population:** Patients on regular hemodialysis for at least three months or more; at DCDC Dialysis unit, Venkateshwar Hospital

2.5.5. **Inclusion Criteria:** following were the inclusion criterion:

2.5.5.1. ESRD patients who aged 18 years and above of either sex;

2.5.5.2. Patients who were able to read/speak, Hindi, or English

2.5.5.3. Patients who were able to provide informed consent

2.5.6. **Ethical Considerations:** Permission was obtained from DCDC Kidney care as well as the nephrologist incharge at Venkateshwar Hospital. Consent was obtained verbally from each respondent and confidentiality of their information was assured to them. The data was maintained and used for research purposes only.

2.5.7. **Sampling Technique:** Convenience sampling was done to choose subjects for the study

2.5.8. **Sample Size:** a sample size of 75 patients was chosen from the complete list of patients on hemodialysis for the study.

2.5.9. **Mode of Data Collection:** Primary data was collected from the patients on hemodialysis via WHOQOL-BREF. The questionnaire was self administered to the patients who were literate in English. For the other patients, data was collected by an interviwer.

2.5.10. **Questionnaire:** Quality of life was assessed using the World Health Organisation Quality of Life (WHOQOL-BREF) questionnaire. The questionnaire was available in both self-administered and interviewer-administered forms.

Demographic data such as age, sex and employment was collected. Raw scores for each of the four domains were computed and the data collected was converted into transformed scores based on the guidelines of the questionnaire.

2.5.11. **Analysis:** SPSS was used for analysis. Univariant relationships between sociodemographic (gender, age group and working status), ESRD-related variable (type of co-morbidity), and WHOQOL-BREF scores were analyzed with one-way ANOVA. Post-hoc analysis was carried out with variables with three groups, to compare the significance of means and accurately determine the effect of the variable on QOL domains. Pearson's correlation was used to study the correlation between QOL scores of each domain of WHOQOL-BREF and continuous socio-demographic and kidney disease variables (gender, age, working status, and co-morbidities).

2.6. RESULTS

During the period of two months, seventy-five patients on regular hemodialysis were included in the study to assess the quality of life.

The demographic details of the hemodialysis patients included in the study is shown in Table 2.6.1.

TABLE 2.6.1 : DEMOGRAPHIC DETAILS

GENDER	Frequency	Percent
MALE	38	50.7
FEMALE	37	49.3
AGE_GROUP	Frequency	Percent
<30	3	4.0
31-60	37	49.3
>60	35	46.7
WORKING_STATUS	Frequency	Percent
WORKING	24	32.0
NOT WORKING	35	46.7
RETIRED	16	21.3
DIABETES	Frequency	Percent
YES	34	45.3
NO	41	54.7
HYPERTENSION	Frequency	Percent
YES	56	74.7
NO	19	25.3
CARDIAC_PROBLEM	Frequency	Percent
YES	9	12.0
NO	66	88.0
Total	75	100.0

The study consisted of 50.7% (38) male and 49.3% (37) female patients. Out of the 75 subjects, most patients (49.3%) were between 31-60 years of age, followed by 46.7% subjects who were above 60 years of age. It was seen that, only 32% of the patients were working for a living, while the rest 68% were either not working or retired.

Upon studying the co-morbidities of the patients, it was seen that majority of the subjects (54.7%) were non diabetic and 88% were not suffering from any cardiac problems. However, an opposite trend was observed in case of hypertension, wherein 74.7% patients were seen suffering from it.

TABLE 2.6.2 : COMPARISON OF QOL SCORES

		VERY POOR	POOR	MODERATE	GOOD	VERY GOOD	Total
PHYSICAL DOMAIN	Frequency	17	29	13	12	4	75
	Percent	22.7	**38.7**	17.3	16.0	5.3	100.0
PSYCHOLOGICAL DOMAIN	Frequency	13	26	24	11	1	75
	Percent	17.3	**34.7**	32.0	14.7	1.3	100.0
SOCIAL RELATIONSHIP DOMAIN	Frequency	5	11	35	18	6	75
	Percent	6.7	14.7	**46.7**	24.0	8.0	100.0
ENVIRONMENT DOMAIN	Frequency	10	24	24	13	4	75
	Percent	13.3	**32.0**	**32.0**	17.3	5.3	100.0

The QOL of hemodialysis patients was studied under four domains using the WHOQOL-BREF, which are as mentioned in Table 2.6.2 above. In both physical and psychological domains, the QOL of patients was seen to be severely impaired, with most patients exhibiting poor scores. Only 21.3% and 16% patients displayed good QOL scores in physical and psychological domains.

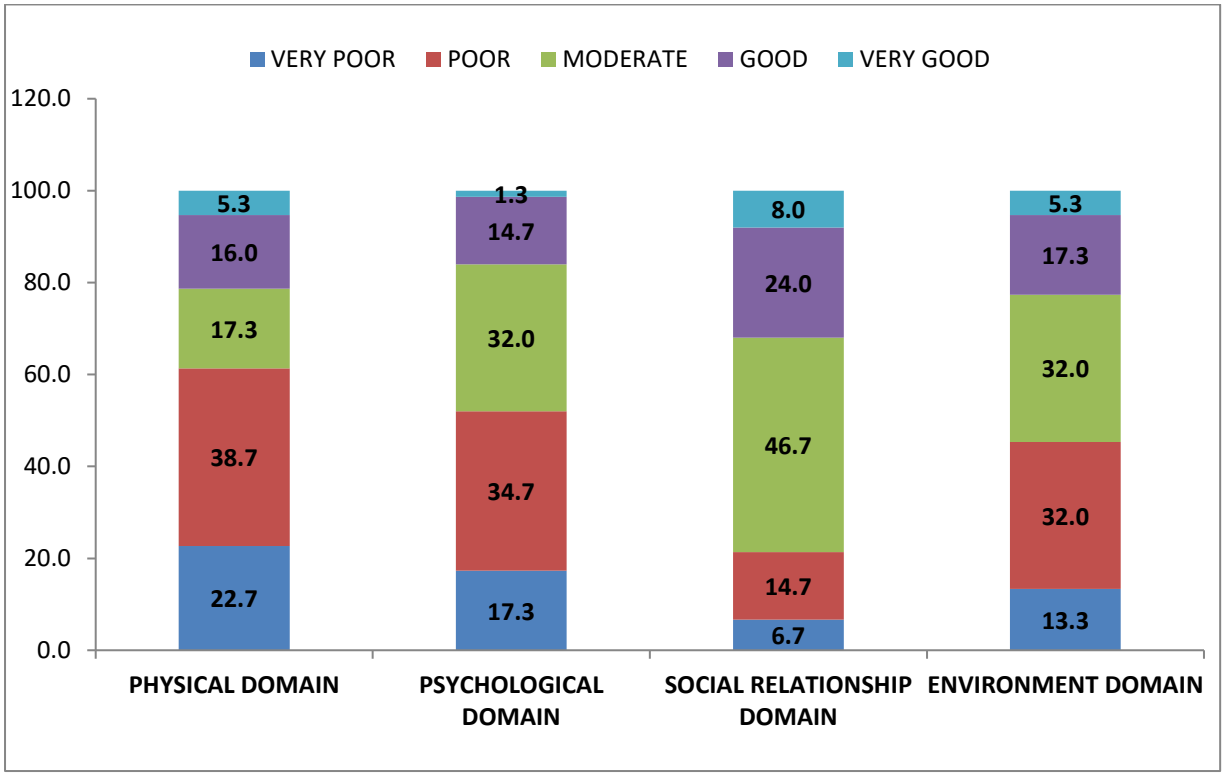

Figure 2.6.1: *Graph showing QOL scores in different domains*

A significantly higher percentage of respondents (46.7%) showed moderate QOL with respect to the social relationship domain. This trend of poor to moderate QOL scores was observed in the environment domain as well, with 32% respondents in both poor and moderate QOL score categories.

TABLE 2.6.3 : ASSOCIATION BETWEEN DEMOGRAPHIC CHARACTERS AND QOL

	N	PHYSICAL	PSYCHOLOGICAL	SOCIAL RELATIONSHIP	ENVIRONMENT
GENDER					
MALE	38	36.1845	39.5839	49.5611	38.2411
		20.82839	18.62833	19.46589	16.13959
FEMALE	37	40.2511	41.2162	56.3059	50.0859
		24.02659	21.03535	17.61178	23.64562
		df=74	df=74	df=74	df=74
		P=0.436	*P=0.723*	*P=0.120*	*P=0.013**
AGE GROUP					
<30	3	82.1467	80.5567	58.3300	62.5033
		12.37262	6.36433	0.00000	8.26986
31-60	37	45.8498	47.5232	60.5850	51.1842
		21.82973	17.19219	18.49285	20.96822
>60	35	26.3262	29.4046	44.2858	35.0004
		14.1299	14.5024	16.1400	17.7072
		df=72	df=72	df=72	df=72
		*P=0.000**	*P=0.000**	*P=0.001**	*P=0.001**
WORKING STATUS					
WORKING	24	47.7685	49.4801	57.9851	46.6160
NOT WORKING		22.33687	17.94542	18.95161	16.58577
	35	36.9389	38.3333	54.5235	47.0549
RETIRED		23.25770	21.14456	17.88867	24.30103
	16	26.5623	31.2498	41.6669	33.7897
		13.8000	13.5231	16.6663	15.9846
		df=72	df=72	df=72	df=72
		*P=0.010**	*P=0.010**	*P=0.019**	*P=0.084*

The association between demographic factors and QOL of patients on maintenance hemodialysis was assessed; the findings are tabulated in Table 2.6.3. 38 male and 37 female patients on MHD provided data which was analysed. Compared to the male hemodialysis patients (38.2411), the QOL score of female patients was reported significantly ($P < 0.05$) higher in the environmental domain (50.0859).

Age group also had a very significant effect on QOL scores. The difference between QOL scores was significant in all four dimensions for hemodialysis patients in different age groups. The *Post hoc* analysis carried out after ANOVA showed that hemodialysis subjects below 30 years of age, had a score which was

significantly higher in the physical ($P < 0.05$) and psychological ($P < 0.05$) domains compared to those subjects who were above 30 years of age. The analysis also showed that hemodialysis subjects who were between 31-60 years of age, scored statistically significant higher scores in all four domains ($P < 0.005$) compared to hemodialysis subjects who were above 60 years of age.

Employment status was another demographic variable affecting the QOL scores significantly. The difference in means was significant in the physical health ($P < 0.05$), psychological health ($P < 0.05$) and social relationship domains ($P < 0.05$). It was seen in the *Post hoc* analysis that subjects who were employed, showed significantly higher scores in the physical ($P < 0.05$), psychological ($P < 0.05$) and social relationship ($P < 0.05$) domains compared to retired subjects.

TABLE 2.6.4 : ASSOCIATION BETWEEN CO-MORBIDITIES AND QOL

CO-MORBIDITIES	N	PHYSICAL	PSYCHOLOGICAL	SOCIAL RELATIONSHIP	ENVIRONMENT
DIABETES					
YES	34	32.9829	36.3975	48.2840	38.6037
		17.07329	16.00058	18.32401	19.20081
NO	41	42.5094	43.6993	56.7068	48.6296
		25.41513	22.01101	18.46632	21.42536
		df=73	df=73	df=73	df=73
		P=0.066	*P=0.111*	*P=0.052*	*P=0.038**
HYPERTENSION					
YES	56	34.1200	37.0538	50.5949	43.2488
		19.40603	18.04329	20.09129	19.88823
NO	19	50.1886	50.2196	59.6486	46.5479
		26.63303	21.67187	12.19066	24.13748
		df=73	df=73	df=73	df=73
		*P=0.006**	*P=0.011**	*P=0.069*	*P=0.556*
CARDIAC PROBLEM					
YES	9	29.7621	34.2589	51.8515	38.5417
		14.61686	13.46684	16.55120	16.01086
NO	66	39.3401	41.2251	53.0299	44.8404
		23.10764	20.37487	19.14988	21.49466
		df=73	df=73	df=73	df=73
		P=0.231	*P=0.324*	*P=0.861*	*P=0.401*

Three co-morbidities majorly present in hemodialysis patients, diabetes, hypertension and cardiac problems were studied so as to determine their effect on the QOL scores. The patients not having diabetes showed a significantly higher ($P < 0.05$) QOL score in the environment domain (48.6296) compared to those subjects who had diabetes (38.6037).

Hemodialysis subjects not presenting with hypertension, reported significantly higher ($P < 0.05$) QOL scores in physical health (50.1886) and psychological health (50.2196) domains as compared to the subjects having hypertension (34.1200 and 37.0538 respectively).

The analysis showed that there was no significant effect of cardiac problems on the QOL scores of the hemodialysis patients.

TABLE 2.6.5 : PEARSON'S CORRELATION BETWEEN DEMOGRAPHIC CHARACTERISTICS, CO-MORBIDITIES AND DIMENSIONS OF WHOQOL-BREF

VARIABLE	PHYSICAL	PSYCHOLOGICAL	SOCIAL RELATIONSHIP	ENVIRONMENT
GENDER	0.0914	0.0416	0.1810	.285*
AGE GROUP	-.575**	-.603**	-.399**	-.420**
WORKING STATUS	-.345**	-.343**	-.299**	-0.2002
DIABETES	0.2131	0.1854	0.2250	.240*
HYPERTENSION	.314**	.292*	0.2113	0.0690
CARDIAC PROBLEM	0.1399	0.1155	0.0206	0.0985

**: *Correlation is significant at the 0.01 level (two-tailed)*

*: *Correlation is significant at the 0.05 level (two-tailed)*

Pearson's correlation showed a positive relationship between the gender and environmental QOL score. The observation made between the presence of diabetes in hemodialysis subjects and their environmental QOL score was a similar one. Positive relationship was also documented between the presence of hypertension and the physical and psychological QOL scores. Conversely, negative association was observed between age group and QOL scores of all four domains. A statistically significant ($P < 0.01$ and $P < 0.05$) negative correlation was observed between the physical health, psychological health and social relationship dimension of WHOQOL-BREF and patients' working status.

2.7. DISCUSSION

The measurement of QOL is becoming imperative in assessment of adequacy of renal replacement therapies. The goal is to measure the quality of life of patients on hemodialysis and determine the factors affecting it so as to improve the functioning ability of these patients so that they can live life to the fullest. The results of the study show how the physical, psychological, social relationship and environmental domains are affected in patients hemodialysis.

The QOL scores of hemodialysis patients in all four domains ranged from poor to moderate. Most patients exhibited a poor physical health which clearly demonstrates that daily activities are perturbed in ESRD patients as renal replacement treatment is the only mode of survival for them. Similar observation was made for the QOL score in the psychological domain. This illustrates that the burden of ERSD and hemodialysis has a significant toll not only the physical health but also on the mental well being of the patients. It leads to phases of depression, anxiety and loneliness.

The QOL scores in the social relationship and environment domains were observed to be a little better, in the moderate category. Though social relationships are hampered for these patients due to dependence on medical treatment, the support from friends and family helps them lead a better life. A majority of patients showed poor and moderate QOL scores in the environmental domain. The subjects did not have enough financial resources to meet the economic burden of ERSD leading to decreased standard of living. They do not feel safe and healthy in their physical environment. Most patients are also dissatisfied with their living conditions, access to health facilities and do not find time for leisure activities owing to their medical dependence on renal replacement therapy.

The impact of gender was seen to be very minimal on the QOL scores. The environmental domain QOL score of females was observed to be significantly higher. This shows that women are more satisfied with their living conditions and access to medical services. Also, they are able to find more time for recreation and leisure activities.

On the other hand, age was seen to be a very significant factor affecting QOL scores. The overall QOL of patients below 30 years of age was substantially better than those in the higher age group. Physically and psychologically patients below 30 were seen to have a better quality of life. Also, the patients in the age group 31-60 had significantly higher QOL scores in all four domains. This clearly indicates that with the increase in age and the functionality of the body gets limited. Burden of ERSD along with old age reduces the QOL of patients to a great extent. Patients in the older age group are limited not only by need for hemodialysis, but other geriatric problems such as arthritis, reduced memory, co-morbidities etc. Young patients are more fit and agile and thus are able to cope with the burden of ERSD and hemodialysis to a greater extent.

Employed hemodialysis patients exhibited substantially better overall QOL scores than that of the retired and the unemployed groups. Scores in physical, psychological, and social health domains was better for the employed patients. Along with our studies, other studies have also shown that financial independence, contributes to higher QOL scores to some extent amongst the patients who were employed. Better working ability, mobility and less constraints in daily activities also contribute significantly to better QOL scores in these patients. Thus, employment is seen to be a major determinant of QOL of hemodialysis patients.

The influence of type of co-morbidities on QOL was very limited according to our study. Patients suffering from diabetes had a significantly lower score in the environmental domain, showing that they are more apprehensive about their living conditions, access to medical services and do not find adequate time for leisure activities. On the other hand, hypertension was seen to have a significant effect on the physical and psychological health of ERSD patients. Hypertension not only increases their dependency on medical facilities, but also takes a toll on their energy levels, severely limiting their ability to move around and carry on day to day activities. Patients suffering from hypertension were also seen to enjoy their lives less and often suffer from depression and anxiety. The presence of cardiac problems in hemodialysis patients was seen to have on their QOL scores whatsoever.

To establish a relationship between different demographic variables and co-morbidities and QOL scores in different domains, Pearson's correlation was carried out. Age group was seen to have a significant positive relationship with all four domains of quality of life, while gender, presence of diabetes and hypertension affected one to two domains of QOL significantly. The working status of patients exhibited a strong negative correlation with physical, psychological and social health domains of hemodialysis patients.

2.8. CONCLUSION

From the results and discussion of the study above, we can say that:

2.8.1. The quality of life of patients on maintenance hemodialysis was measured using the WHOQOL-BREF. On analysis of the results, it can be concluded that the QOL of patients is severely impaired. The patients scored poor-moderate in all physical, psychological, social relationship and environmental domains.

The mobility and physical health of patients is affected to quite an extent due to their dependence on regular dialysis for functioning. This also hampers their social life and commitments as huge amount of time has to be spared every week for dialysis and medical tests. Due to the economic and time burden of dialysis, patients are not able to get adequate time for leisure activities and are also hostile towards their environment, thus leading to deranged QOL scores in environmental domain as well.

2.8.2. The QOL scores in different domains were compared with various demographic variables and co-morbidities. The following results can be concluded:

2.8.2.1. Gender had significant effect only on the environmental domain of QOL. The QOL of female patients with respect to environmental domain is significantly better than males. Female patients on MHD are more satisfied with their environmental conditions than male patients. They feel safer, are more satisfied with their access to health services and transport facilities.

2.8.3. Age group had a significant effect in determining the quality of life. It was seen that the quality of life in all domains decreases severely with increase in age. The ability to cope with the disease and the burden of regular dialysis both physically as well as psychologically, decreases to a great extent with the increase in age.

2.8.4. Employment status of the patients is also a major determinant of the physical, psychological and social of health. It can be concluded that financial independence and regular employment

has a positive bearing on the quality of life. Working patients exhibited significantly better physical, psychological and social health.

2.8.5. Amongst the three co-morbidities studied under the research, diabetes and hypertension was seen to have some bearing on the QOL of patients, while cardiac problems had no effect whatsoever. Patients not suffering from diabetes are more satisfied with their environment than the ones suffering from diabetes.

Hypertension on the other hand, affects the physical and psychological health of dialysis patients. Patients not suffering from hypertension showed significantly better physical and psychological health.

2.9. LIMITATIONS

2.9.1. The period of the study was limited to three months due to time constraints.

2.9.2. The sample size was inadequate to generalize results.

2.9.3. The utility of the questionnaire was limited based on the interpretation of the questions by the patients.

2.9.4. The quality of responses was limited due to recall bias of patients.

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2.11. APPENDIX

2.11.1. QUESTIONNAIRE

WHOQOL-BREF

PROGRAMME ON MENTAL HEALTH

WORLD HEALTH ORGANIZATION

GENEVA

	Equations for computing domain scores	Raw score	Transformed scores*	
Domain 1	(6-Q3) + (6-Q4) + Q10 + Q15 + Q16 + Q17 + Q18 d + d + d + d + d + d + d	=	**4-20**	**0-100**
Domain 2	Q5 + Q6 + Q7 + Q11 + Q19 + (6-Q26) d + d + d + d + d + d	=		
Domain 3	Q20 + Q21 + Q22 d + d + d	=		
Domain 4	Q8 + Q9 + Q12 + Q13 + Q14 + Q23 + Q24 + Q25 d + d + d + d + d + d + d + d	=		

ABOUT YOU

Before you begin we would like to ask you to answer a few general questions about yourself: by circling the correct answer or by filling in the space provided.

What is your **gender**? Male Female

What is you **date of birth**? _____ / _____ / _____

Day / Month / Year

What is the highest **education** you received? None at all

Primary school

Secondary school

Tertiary

What is your **marital status**? Single Separated

Married Divorced

Living as married Widowed

Are you currently **ill**? Yes No

If something is wrong with your health what do you think it is?_____illness/ problem

Instructions

This assessment asks how you feel about your quality of life, health, or other areas of your life. **Please answer all the questions.** If you are unsure about which response to give to a question, **please choose the one** that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last two weeks.** For example, thinking about the last two weeks, a question might ask:

		Not at all	Not much	Moderately	A great deal	Completely
	Do you get the kind of support from others that you need?	1	2	3	4	5

You should circle the number that best fits how much support you got from others over the last two weeks. So you would circle the number 4 if you got a great deal of support from others as follows.

		Not at all	Not much	Moderately	A great deal	Completely
	Do you get the kind of support from others that you need?	1	2	3	4	5

You would circle number 1 if you did not get any of the support that you needed from others in the last two weeks.

Please read each question, assess your feelings, and circle the number on the scale for each question that gives the best answer for you.

		Very poor	Poor	Neither poor nor good	Good	Very good
1(G1)	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2 (G4)	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3 (F1.4)	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4(F11.3)	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
5(F4.1)	How much do you enjoy life?	1	2	3	4	5
6(F24.2)	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7(F5.3)	How well are you able to concentrate?	1	2	3	4	5
8 (F16.1)	How safe do you feel in your daily life?	1	2	3	4	5
9 (F22.1)	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

		Not at all	A little	Moderately	Mostly	Completely
10 (F2.1)	Do you have enough energy for everyday life?	1	2	3	4	5
11 (F7.1)	Are you able to accept your bodily appearance?	1	2	3	4	5
12 (F18.1)	Have you enough money to meet your needs?	1	2	3	4	5
13 (F20.1)	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14 (F21.1)	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither	Good	Very good

				poor nor good		
15 (F9.1)	How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good or satisfied** you have felt about various aspects of your life over the last two weeks.

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16 (F3.3)	How satisfied are you with your sleep?	1	2	3	4	5
17 (F10.3)	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18(F12.4)	How satisfied are you with your capacity for work?	1	2	3	4	5
19 (F6.3)	How satisfied are you with yourself?	1	2	3	4	5
20(F13.3)	How satisfied are you with your personal relationships?	1	2	3	4	5
21(F15.3)	How satisfied are you with your sex life?	1	2	3	4	5
22(F14.4)	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23(F17.3)	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24(F19.3)	How satisfied are you with your access	1	2	3	4	5

	to health services?					
25(F23.3)	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to **how often** you have felt or experienced certain things in the last two weeks.

		Never	Seldom	Quite often	Very often	Always
26 (F8.1)	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Did someone help you to fill out this form?.....

How long did it take to fill this form out?.....

Do you have any comments about the assessment?

.....

.....

THANK YOU FOR YOUR HELP

2.11.2. SPSS RESULTS

Statistics

		PHYSICAL_RECODED	PSYCHOLOGICAL_RECODED	SOCIAL RELATIONSHIP_RECODED	ENVIRONMENT_RECODED
N	Valid	75	75	75	75
	Missing	0	0	0	0

Frequency Table

PHYSICAL_RECODED

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY POOR	17	22.7	22.7	22.7
	POOR	29	38.7	38.7	61.3
	MODERATE	13	17.3	17.3	78.7
	GOOD	12	16.0	16.0	94.7
	VERY GOOD	4	5.3	5.3	100.0
	Total	75	100.0	100.0	

PSYCHOLOGICAL_RECODED

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY POOR	13	17.3	17.3	17.3
	POOR	26	34.7	34.7	52.0
	MODERATE	24	32.0	32.0	84.0
	GOOD	11	14.7	14.7	98.7
	VERY GOOD	1	1.3	1.3	100.0
	Total	75	100.0	100.0	

SOCIAL RELATIONSHIP_RECODED

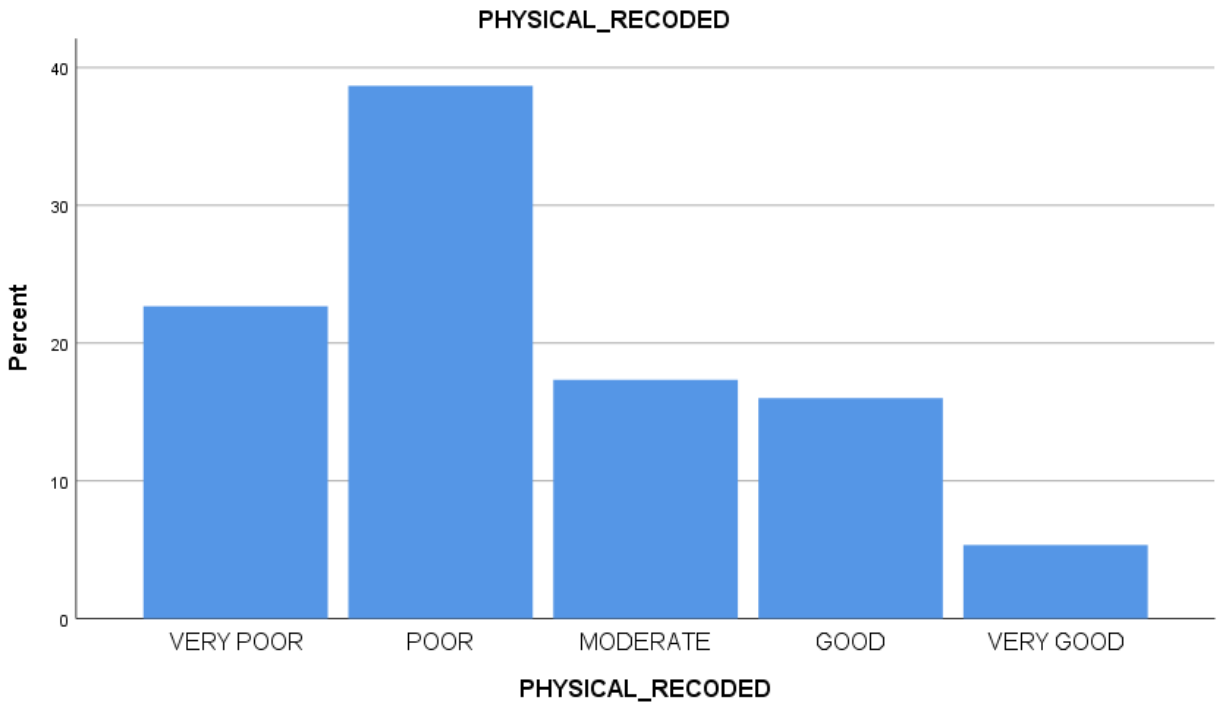
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY POOR	5	6.7	6.7	6.7
	POOR	11	14.7	14.7	21.3
	MODERATE	35	46.7	46.7	68.0
	GOOD	18	24.0	24.0	92.0
	VERY GOOD	6	8.0	8.0	100.0
	Total	75	100.0	100.0	

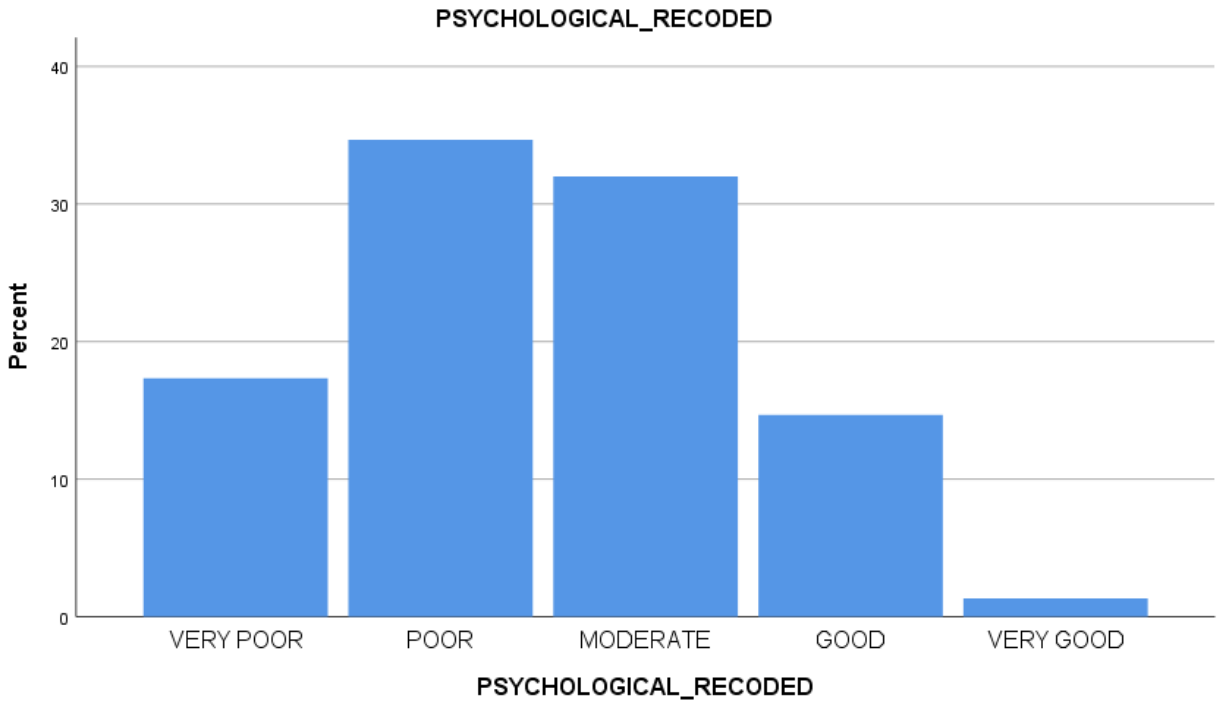
ENVIRONMENT_RECODED

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY POOR	10	13.3	13.3	13.3
	POOR	24	32.0	32.0	45.3
	MODERATE	24	32.0	32.0	77.3

	GOOD	13	17.3	17.3	94.7
	VERY GOOD	4	5.3	5.3	100.0
	Total	75	100.0	100.0	

Bar Chart




PSYCHOLOGICAL_RECODED
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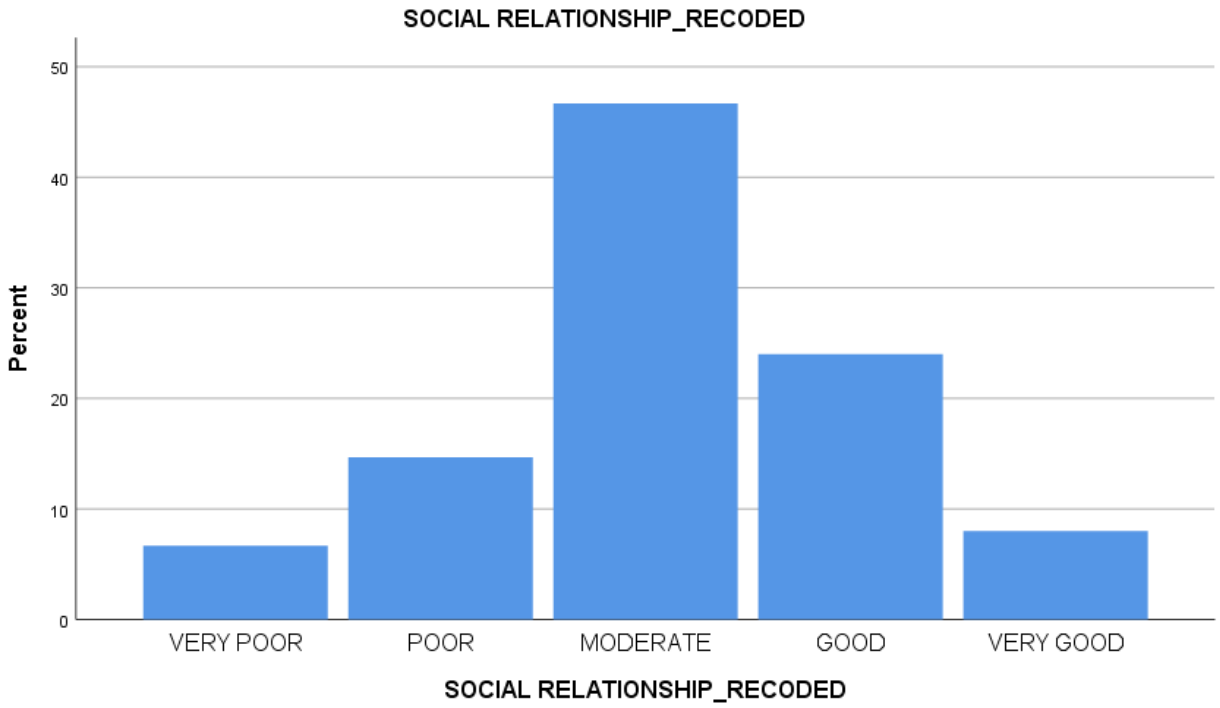
30
20
10
0
VERY POOR
POOR
MODERATE
GOOD
VERY GOOD
PSYCHOLOGICAL_RECODED


SOCIAL RELATIONSHIP_RECODED
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20
10
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VERY POOR
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MODERATE
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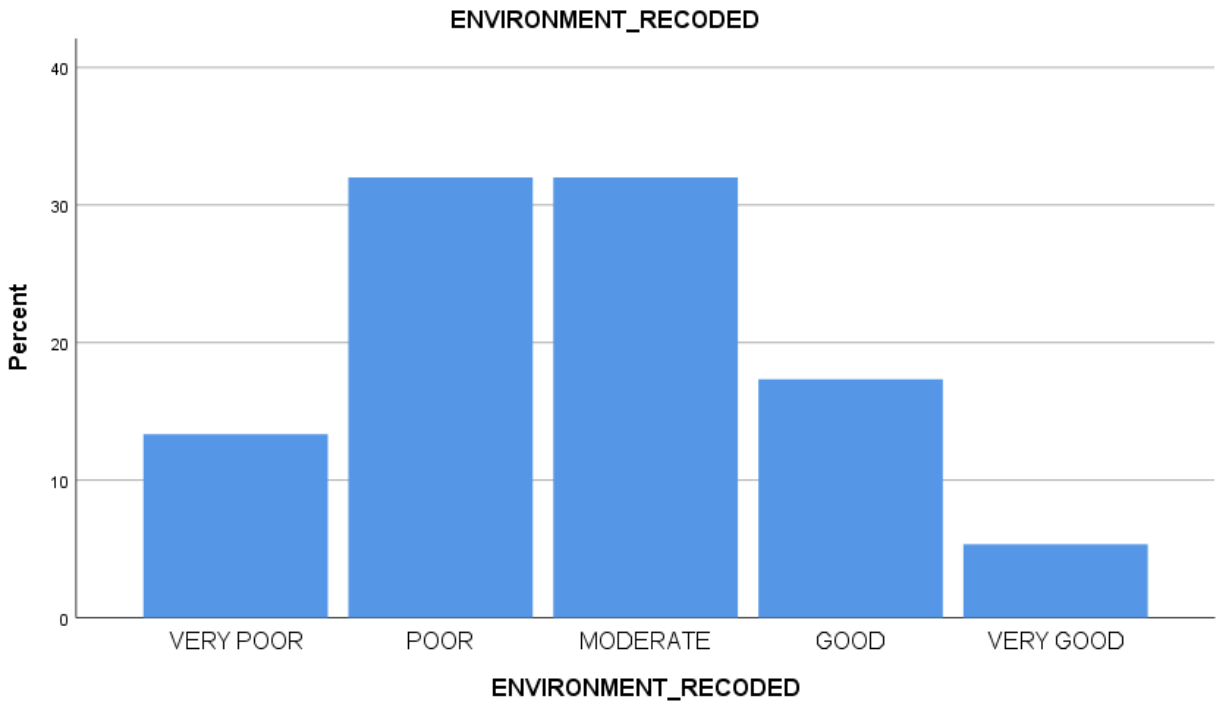
VERY GOOD
SOCIAL RELATIONSHIP_RECODED



Statistics

		GENDER	AGE_GROUP	WORKING_STATUS	DIABETES	HYPERTENSION
N	Valid	75	75	75	75	75
	Missing	0	0	0	0	0

Statistics

		CARDIAC_PROBLEM
N	Valid	75
	Missing	0

Frequency Table

GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	38	50.7	50.7	50.7
	FEMALE	37	49.3	49.3	100.0
	Total	75	100.0	100.0	

AGE_GROUP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<30	3	4.0	4.0	4.0
	31-60	37	49.3	49.3	53.3
	>60	35	46.7	46.7	100.0
	Total	75	100.0	100.0	

WORKING_STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	WORKING	24	32.0	32.0	32.0
	NOT WORKING	35	46.7	46.7	78.7
	RETIRED	16	21.3	21.3	100.0
	Total	75	100.0	100.0	

DIABETES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	34	45.3	45.3	45.3
	NO	41	54.7	54.7	100.0
	Total	75	100.0	100.0	

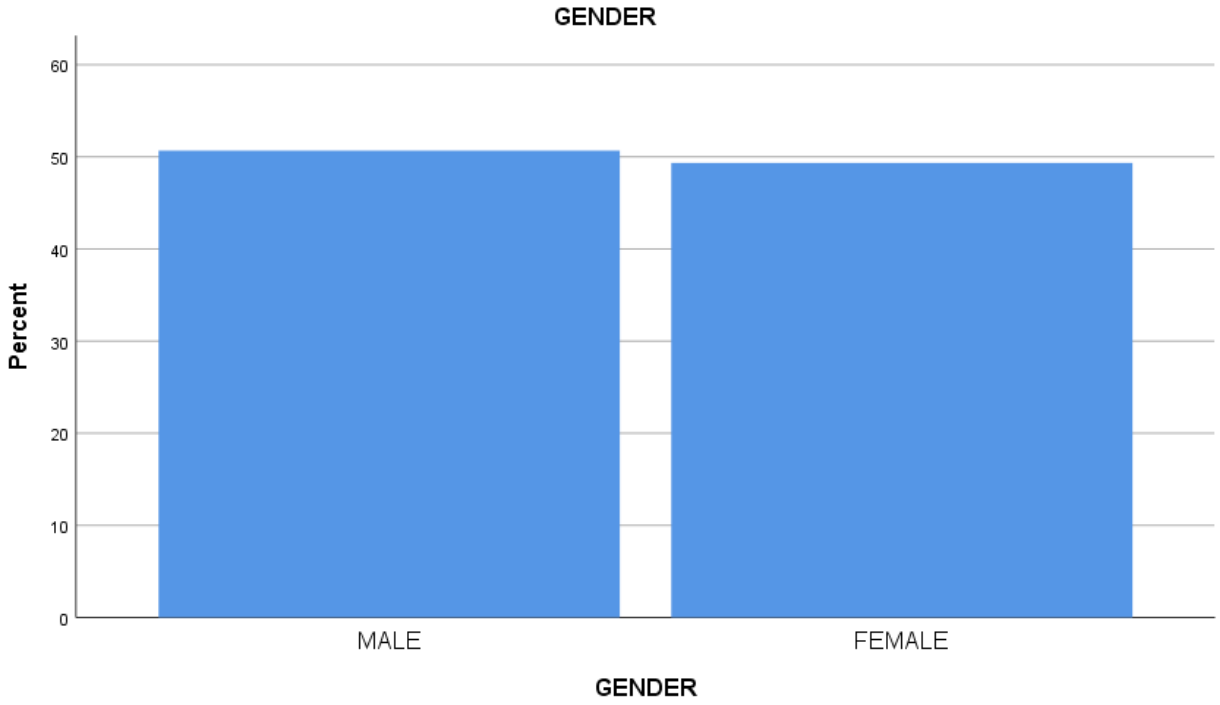
HYPERTENSION

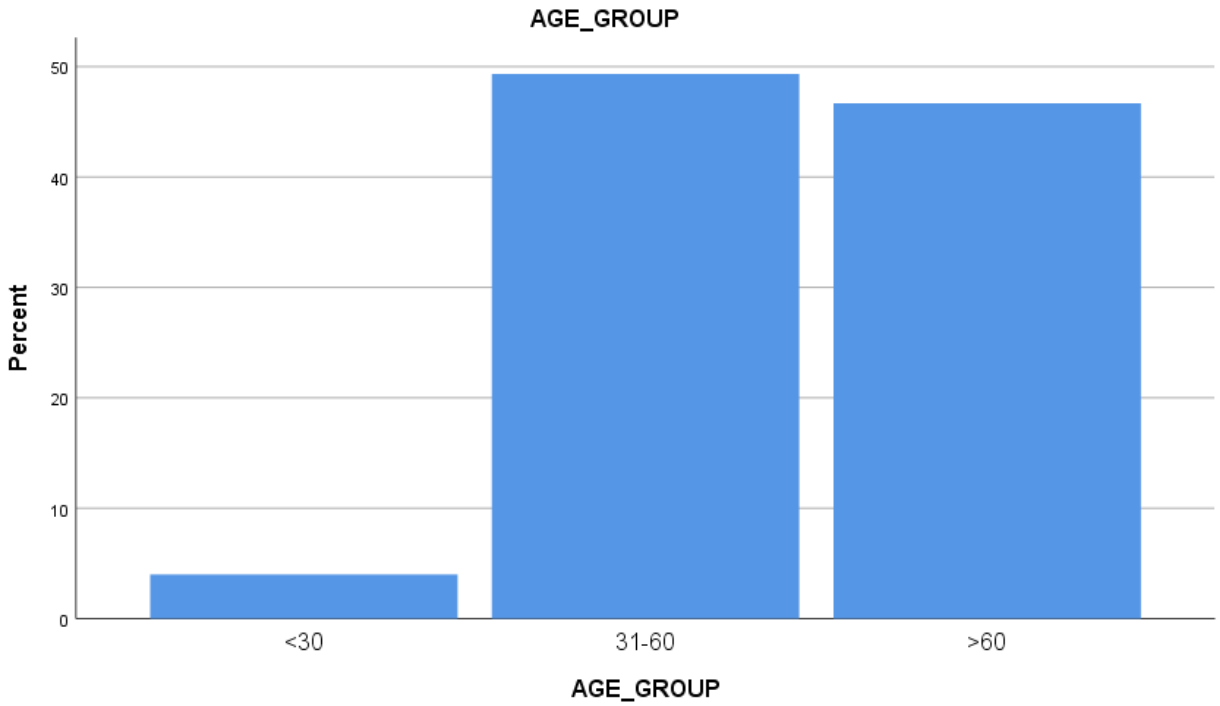
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	56	74.7	74.7	74.7
	NO	19	25.3	25.3	100.0
	Total	75	100.0	100.0	

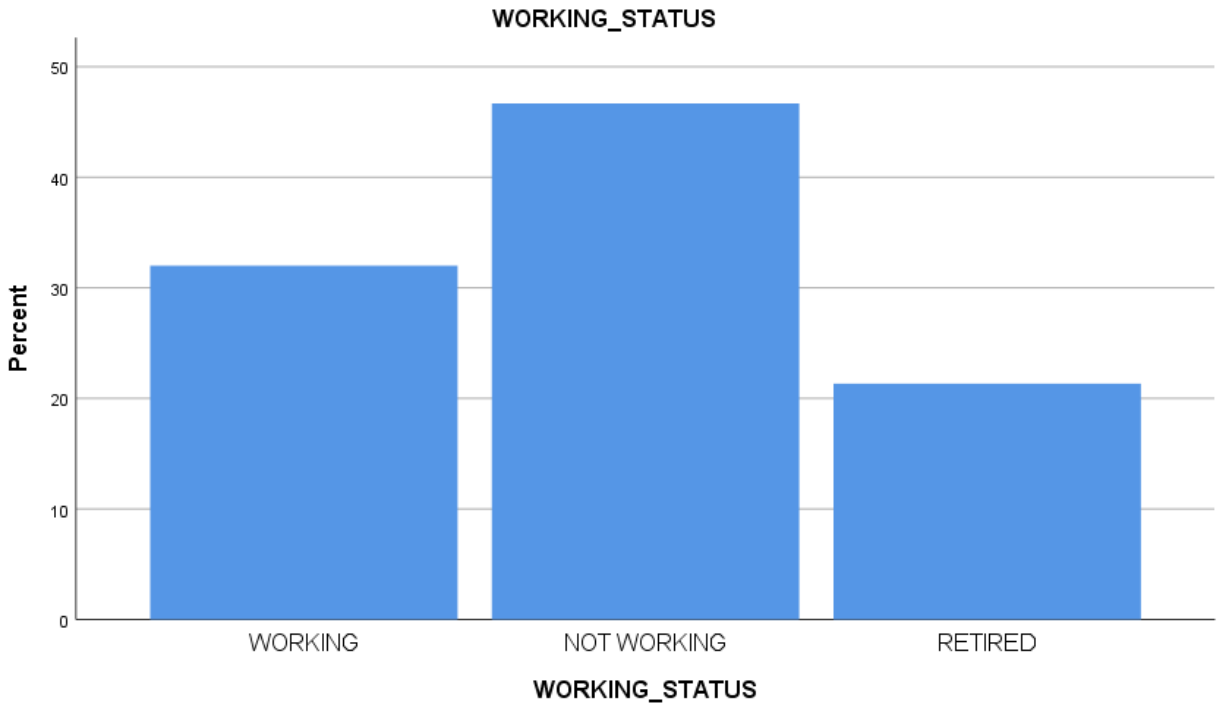
CARDIAC_PROBLEM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	9	12.0	12.0	12.0
	NO	66	88.0	88.0	100.0
	Total	75	100.0	100.0	

Bar Chart




AGE_GROUP
Percent
50
40
30
20
10
0
<30
31-60
>60
AGE_GROUP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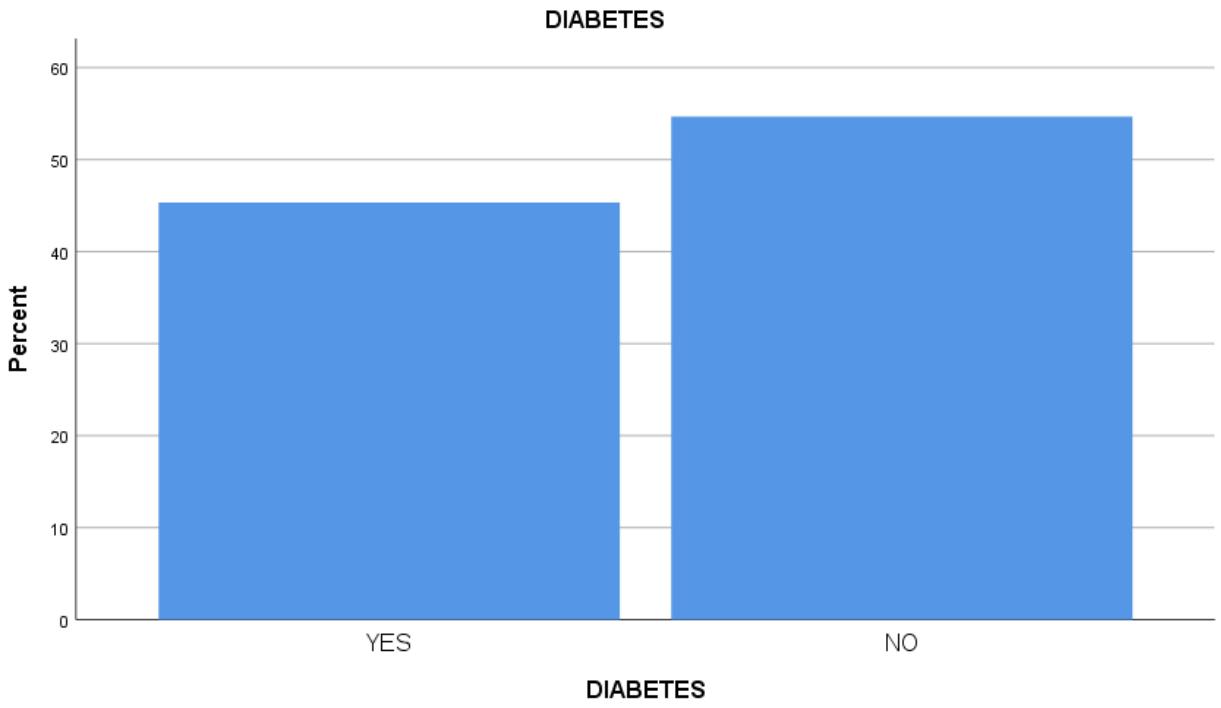
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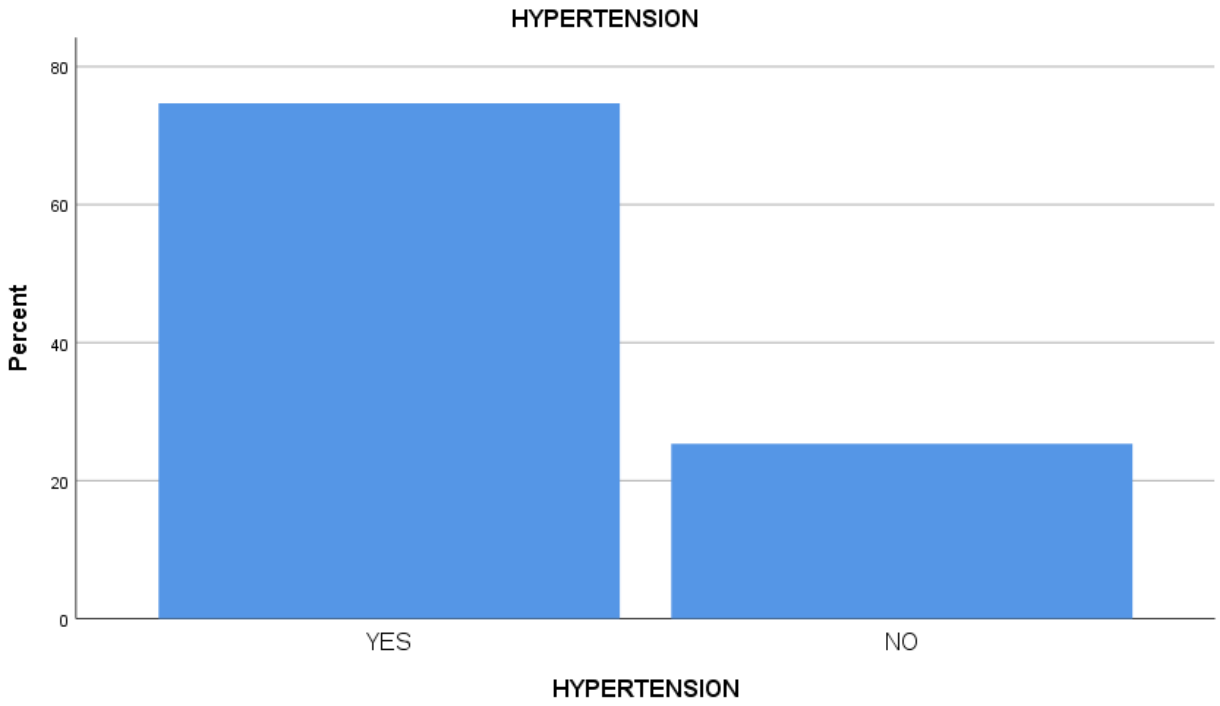
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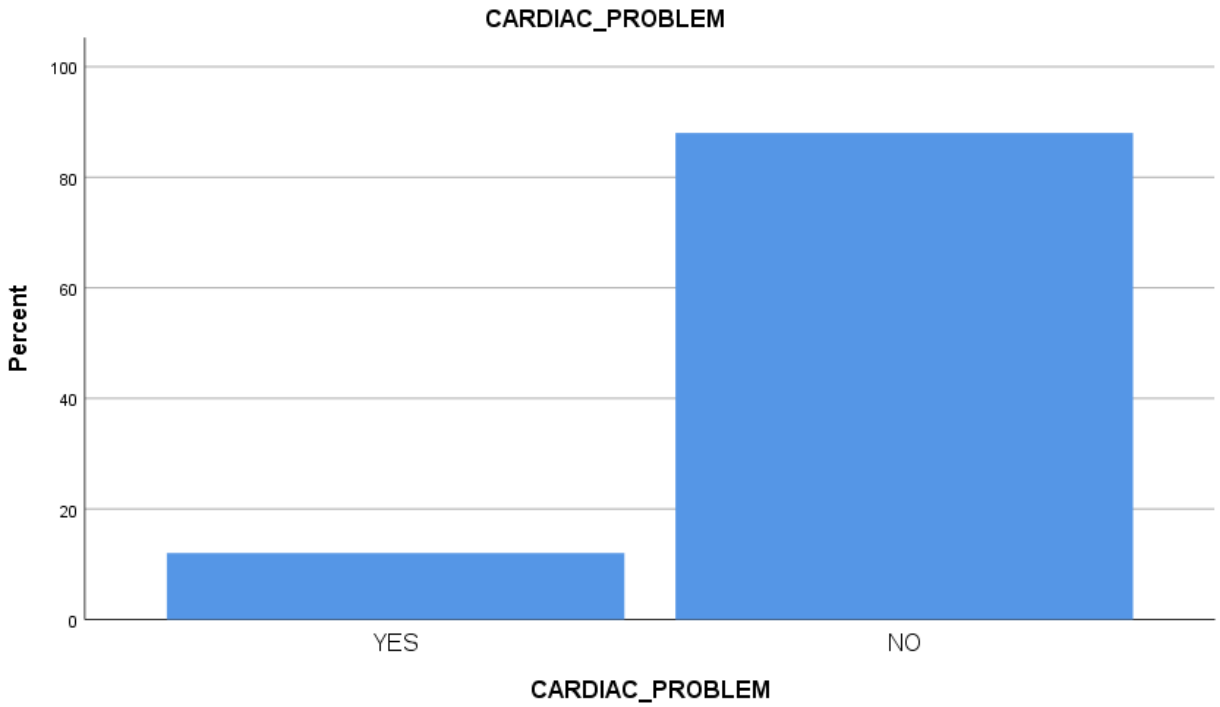
HYPERTENSION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CARDIAC_PROBLEM

ANOVA

1. GENDER

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
PHYSICAL (TRANSFORMED)	MALE	38	36.1845	20.82839	3.37881	29.3384
	FEMALE	37	40.2511	24.02659	3.94995	32.2402
	Total	75	38.1907	22.40397	2.58699	33.0360
PSYCHOLOGICAL (TRANSFORMED)	MALE	38	39.5839	18.62833	3.02191	33.4609
	FEMALE	37	41.2162	21.03535	3.45819	34.2027
	Total	75	40.3892	19.73438	2.27873	35.8487
SOCIAL RELATIONSHIP (TRANSFORMED)	MALE	38	49.5611	19.46589	3.15778	43.1628
	FEMALE	37	56.3059	17.61178	2.89536	50.4338
	Total	75	52.8885	18.75849	2.16604	48.5726
ENVIRONMENT (TRANSFORMED)	MALE	38	38.2411	16.13959	2.61819	32.9361
	FEMALE	37	50.0859	23.64562	3.88732	42.2021
	Total	75	44.0845	20.92339	2.41602	39.2705

Descriptives

	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum

PHYSICAL (TRANSFORMED)	MALE	43.0307	7.14	89.29
	FEMALE	48.2619	3.57	82.14
	Total	43.3454	3.57	89.29
PSYCHOLOGICAL (TRANSFORMED)	MALE	45.7068	8.33	87.50
	FEMALE	48.2298	.00	75.00
	Total	44.9296	.00	87.50
SOCIAL RELATIONSHIP (TRANSFORMED)	MALE	55.9593	8.33	83.33
	FEMALE	62.1779	16.67	83.33
	Total	57.2044	8.33	83.33
ENVIRONMENT (TRANSFORMED)	MALE	43.5460	12.50	68.75
	FEMALE	57.9698	3.13	96.88
	Total	48.8986	3.13	96.88

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PHYSICAL (TRANSFORMED)	Based on Mean	2.614	1	73	.110
	Based on Median	1.934	1	73	.169
	Based on Median and with adjusted df	1.934	1	72.900	.169
	Based on trimmed mean	2.588	1	73	.112
PSYCHOLOGICAL (TRANSFORMED)	Based on Mean	2.127	1	73	.149
	Based on Median	1.939	1	73	.168

	Based on Median and with adjusted df	1.939	1	72.657	.168
	Based on trimmed mean	2.162	1	73	.146
SOCIAL RELATIONSHIP (TRANSFORMED)	Based on Mean	.574	1	73	.451
	Based on Median	.647	1	73	.424
	Based on Median and with adjusted df	.647	1	72.991	.424
	Based on trimmed mean	.548	1	73	.461
ENVIRONMENT (TRANSFORMED)	Based on Mean	5.438	1	73	.022
	Based on Median	5.384	1	73	.023
	Based on Median and with adjusted df	5.384	1	65.347	.023
	Based on trimmed mean	5.473	1	73	.022

ANOVA

		Sum of Squares	df	Mean Square	F
PHYSICAL (TRANSFORMED)	Between Groups	310.008	1	310.008	.614
	Within Groups	36833.380	73	504.567	
	Total	37143.388	74		
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	49.952	1	49.952	.127
	Within Groups	28769.034	73	394.096	
	Total	28818.987	74		
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	852.830	1	852.830	2.472
	Within Groups	25186.362	73	345.019	

	Total	26039.192	74		
ENVIRONMENT (TRANSFORMED)	Between Groups	2630.185	1	2630.185	6.450
	Within Groups	29766.140	73	407.755	
	Total	32396.326	74		

ANOVA

		Sig.
PHYSICAL (TRANSFORMED)	Between Groups	.436
	Within Groups	
	Total	
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	.723
	Within Groups	
	Total	
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	.120
	Within Groups	
	Total	
ENVIRONMENT (TRANSFORMED)	Between Groups	.013
	Within Groups	
	Total	

2. AGE GROUP

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
PHYSICAL (TRANSFORMED)	<30	3	82.1467	12.37262	7.14333	51.4114
	31-60	37	45.8498	21.82973	3.58879	38.5715
	>60	35	26.3262	14.12987	2.38838	21.4725
	Total	75	38.1907	22.40397	2.58699	33.0360
PSYCHOLOGICAL (TRANSFORMED)	<30	3	80.5567	6.36433	3.67444	64.7468
	31-60	37	47.5232	17.19219	2.82638	41.7910
	>60	35	29.4046	14.50244	2.45136	24.4228
	Total	75	40.3892	19.73438	2.27873	35.8487
SOCIAL RELATIONSHIP (TRANSFORMED)	<30	3	58.3300	.00000	.00000	58.3300
	31-60	37	60.5850	18.49285	3.04021	54.4191
	>60	35	44.2858	16.13997	2.72815	38.7415
	Total	75	52.8885	18.75849	2.16604	48.5726
ENVIRONMENT (TRANSFORMED)	<30	3	62.5033	8.26986	4.77461	41.9599
	31-60	37	51.1842	20.96822	3.44715	44.1930
	>60	35	35.0004	17.70724	2.99307	28.9178
	Total	75	44.0845	20.92339	2.41602	39.2705

Descriptives

		95% Confidence Interval for Mean		
		Upper Bound	Minimum	Maximum
PHYSICAL (TRANSFORMED)	<30	112.8819	67.86	89.29
	31-60	53.1282	10.71	82.14
	>60	31.1800	3.57	57.14
	Total	43.3454	3.57	89.29
PSYCHOLOGICAL (TRANSFORMED)	<30	96.3665	75.00	87.50
	31-60	53.2553	12.50	75.00
	>60	34.3863	.00	66.67
	Total	44.9296	.00	87.50
SOCIAL RELATIONSHIP (TRANSFORMED)	<30	58.3300	58.33	58.33
	31-60	66.7508	8.33	83.33
	>60	49.8301	16.67	75.00
	Total	57.2044	8.33	83.33
ENVIRONMENT (TRANSFORMED)	<30	83.0468	56.25	71.88
	31-60	58.1753	15.63	96.88
	>60	41.0831	3.13	68.75
	Total	48.8986	3.13	96.88

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PHYSICAL (TRANSFORMED)	Based on Mean	5.646	2	72	.005

	Based on Median	5.995	2	72	.004
	Based on Median and with adjusted df	5.995	2	69.115	.004
	Based on trimmed mean	5.758	2	72	.005
PSYCHOLOGICAL (TRANSFORMED)	Based on Mean	1.562	2	72	.217
	Based on Median	1.367	2	72	.261
	Based on Median and with adjusted df	1.367	2	69.556	.262
	Based on trimmed mean	1.538	2	72	.222
SOCIAL RELATIONSHIP (TRANSFORMED)	Based on Mean	2.343	2	72	.103
	Based on Median	1.846	2	72	.165
	Based on Median and with adjusted df	1.846	2	64.842	.166
	Based on trimmed mean	2.294	2	72	.108
ENVIRONMENT (TRANSFORMED)	Based on Mean	2.853	2	72	.064
	Based on Median	1.860	2	72	.163
	Based on Median and with adjusted df	1.860	2	65.825	.164
	Based on trimmed mean	2.773	2	72	.069

ANOVA

		Sum of Squares	df	Mean Square	F
PHYSICAL (TRANSFORMED)	Between Groups	12893.679	2	6446.840	19.141
	Within Groups	24249.709	72	336.802	

	Total	37143.388	74		
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	10946.500	2	5473.250	22.049
	Within Groups	17872.487	72	248.229	
	Total	28818.987	74		
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	4870.760	2	2435.380	8.283
	Within Groups	21168.432	72	294.006	
	Total	26039.192	74		
ENVIRONMENT (TRANSFORMED)	Between Groups	5770.979	2	2885.490	7.803
	Within Groups	26625.346	72	369.796	
	Total	32396.326	74		

ANOVA

		Sig.
PHYSICAL (TRANSFORMED)	Between Groups	.000
	Within Groups	
	Total	
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	.000
	Within Groups	
	Total	
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	.001
	Within Groups	
	Total	
ENVIRONMENT (TRANSFORMED)	Between Groups	.001
	Within Groups	

Total	

3. EMPLOYMENT STATUS

Descriptives

		N	Mean	Std. Deviation	Std. Error
PHYSICAL (TRANSFORMED)	WORKING	24	47.7685	22.33687	4.55950
	NOT WORKING	35	36.9389	23.25770	3.93127
	RETIRED	16	26.5623	13.80005	3.45001
	Total	75	38.1907	22.40397	2.58699
PSYCHOLOGICAL (TRANSFORMED)	WORKING	24	49.4801	17.94542	3.66309
	NOT WORKING	35	38.3333	21.14456	3.57408
	RETIRED	16	31.2498	13.52306	3.38076
	Total	75	40.3892	19.73438	2.27873
SOCIAL RELATIONSHIP (TRANSFORMED)	WORKING	24	57.9851	18.95161	3.86848
	NOT WORKING	35	54.5235	17.88867	3.02374
	RETIRED	16	41.6669	16.66633	4.16658
	Total	75	52.8885	18.75849	2.16604
ENVIRONMENT (TRANSFORMED)	WORKING	24	46.6160	16.58577	3.38556
	NOT WORKING	35	47.0549	24.30103	4.10762
	RETIRED	16	33.7897	15.98457	3.99614
	Total	75	44.0845	20.92339	2.41602

Descriptives

		95% Confidence Interval for Mean			
		Lower Bound	Upper Bound	Minimum	Maximum
PHYSICAL (TRANSFORMED)	WORKING	38.3364	57.2005	17.86	89.29
	NOT WORKING	28.9496	44.9282	3.57	82.14
	RETIRED	19.2088	33.9158	7.14	57.14
	Total	33.0360	43.3454	3.57	89.29
PSYCHOLOGICAL (TRANSFORMED)	WORKING	41.9025	57.0578	12.50	87.50
	NOT WORKING	31.0699	45.5967	.00	75.00
	RETIRED	24.0439	38.4557	12.50	50.00
	Total	35.8487	44.9296	.00	87.50
SOCIAL RELATIONSHIP (TRANSFORMED)	WORKING	49.9826	65.9877	8.33	83.33
	NOT WORKING	48.3786	60.6685	16.67	83.33
	RETIRED	32.7860	50.5477	16.67	75.00
	Total	48.5726	57.2044	8.33	83.33
ENVIRONMENT (TRANSFORMED)	WORKING	39.6125	53.6196	15.63	75.00
	NOT WORKING	38.7072	55.4026	3.13	96.88
	RETIRED	25.2721	42.3073	15.63	62.50
	Total	39.2705	48.8986	3.13	96.88

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.

PHYSICAL (TRANSFORMED)	Based on Mean	3.595	2	72	.033
	Based on Median	3.227	2	72	.045
	Based on Median and with adjusted df	3.227	2	68.142	.046
	Based on trimmed mean	3.564	2	72	.033
PSYCHOLOGICAL (TRANSFORMED)	Based on Mean	2.720	2	72	.073
	Based on Median	2.342	2	72	.103
	Based on Median and with adjusted df	2.342	2	68.607	.104
	Based on trimmed mean	2.707	2	72	.074
SOCIAL RELATIONSHIP (TRANSFORMED)	Based on Mean	.257	2	72	.774
	Based on Median	.221	2	72	.802
	Based on Median and with adjusted df	.221	2	68.569	.802
	Based on trimmed mean	.254	2	72	.776
ENVIRONMENT (TRANSFORMED)	Based on Mean	3.331	2	72	.041
	Based on Median	3.316	2	72	.042
	Based on Median and with adjusted df	3.316	2	69.167	.042
	Based on trimmed mean	3.363	2	72	.040

ANOVA

		Sum of Squares	df	Mean Square	F
PHYSICAL (TRANSFORMED)	Between Groups	4419.949	2	2209.974	4.863

	Within Groups	32723.439	72	454.492	
	Total	37143.388	74		
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	3467.875	2	1733.938	4.925
	Within Groups	25351.111	72	352.099	
	Total	28818.987	74		
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	2731.781	2	1365.890	4.219
	Within Groups	23307.411	72	323.714	
	Total	26039.192	74		
ENVIRONMENT (TRANSFORMED)	Between Groups	2158.345	2	1079.173	2.570
	Within Groups	30237.980	72	419.972	
	Total	32396.326	74		

ANOVA

		Sig.
PHYSICAL (TRANSFORMED)	Between Groups	.010
	Within Groups	
	Total	
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	.010
	Within Groups	
	Total	
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	.019
	Within Groups	
	Total	
ENVIRONMENT (TRANSFORMED)	Between Groups	.084

			Within Groups			
			Total			

4. DIABETES STATUS

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
PHYSICAL (TRANSFORMED)	YES	34	32.9829	17.07329	2.92804	27.0257
	NO	41	42.5094	25.41513	3.96918	34.4874
	Total	75	38.1907	22.40397	2.58699	33.0360
PSYCHOLOGICAL (TRANSFORMED)	YES	34	36.3975	16.00058	2.74408	30.8146
	NO	41	43.6993	22.01101	3.43754	36.7518
	Total	75	40.3892	19.73438	2.27873	35.8487
SOCIAL RELATIONSHIP (TRANSFORMED)	YES	34	48.2840	18.32401	3.14254	41.8905
	NO	41	56.7068	18.46632	2.88395	50.8781
	Total	75	52.8885	18.75849	2.16604	48.5726
ENVIRONMENT (TRANSFORMED)	YES	34	38.6037	19.20081	3.29291	31.9042
	NO	41	48.6296	21.42536	3.34608	41.8670
	Total	75	44.0845	20.92339	2.41602	39.2705

Descriptives

			95% Confidence Interval for Mean	Minimum	Maximum

		Upper Bound		
PHYSICAL (TRANSFORMED)	YES	38.9400	3.57	71.43
	NO	50.5314	7.14	89.29
	Total	43.3454	3.57	89.29
PSYCHOLOGICAL (TRANSFORMED)	YES	41.9803	.00	62.50
	NO	50.6469	8.33	87.50
	Total	44.9296	.00	87.50
SOCIAL RELATIONSHIP (TRANSFORMED)	YES	54.6776	8.33	75.00
	NO	62.5355	16.67	83.33
	Total	57.2044	8.33	83.33
ENVIRONMENT (TRANSFORMED)	YES	45.3032	3.13	81.25
	NO	55.3923	12.50	96.88
	Total	48.8986	3.13	96.88

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PHYSICAL (TRANSFORMED)	Based on Mean	10.652	1	73	.002
	Based on Median	8.808	1	73	.004
	Based on Median and with adjusted df	8.808	1	69.108	.004
	Based on trimmed mean	10.346	1	73	.002
PSYCHOLOGICAL (TRANSFORMED)	Based on Mean	5.316	1	73	.024
	Based on Median	5.127	1	73	.027

	Based on Median and with adjusted df	5.127	1	69.550	.027
	Based on trimmed mean	5.309	1	73	.024
SOCIAL RELATIONSHIP (TRANSFORMED)	Based on Mean	.031	1	73	.861
	Based on Median	.016	1	73	.900
	Based on Median and with adjusted df	.016	1	72.676	.900
	Based on trimmed mean	.029	1	73	.865
ENVIRONMENT (TRANSFORMED)	Based on Mean	.896	1	73	.347
	Based on Median	.906	1	73	.344
	Based on Median and with adjusted df	.906	1	72.943	.344
	Based on trimmed mean	.871	1	73	.354

ANOVA

		Sum of Squares	df	Mean Square	F
PHYSICAL (TRANSFORMED)	Between Groups	1686.836	1	1686.836	3.473
	Within Groups	35456.552	73	485.706	
	Total	37143.388	74		
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	990.999	1	990.999	2.600
	Within Groups	27827.988	73	381.205	
	Total	28818.987	74		
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	1318.607	1	1318.607	3.894
	Within Groups	24720.585	73	338.638	

	Total	26039.192	74		
ENVIRONMENT (TRANSFORMED)	Between Groups	1868.329	1	1868.329	4.468
	Within Groups	30527.997	73	418.192	
	Total	32396.326	74		

ANOVA

		Sig.
PHYSICAL (TRANSFORMED)	Between Groups	.066
	Within Groups	
	Total	
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	.111
	Within Groups	
	Total	
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	.052
	Within Groups	
	Total	
ENVIRONMENT (TRANSFORMED)	Between Groups	.038
	Within Groups	
	Total	

5. HYPERTENSION STATUS

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
PHYSICAL (TRANSFORMED)	YES	56	34.1200	19.40603	2.59324	28.9230
	NO	19	50.1886	26.63303	6.11004	37.3519
	Total	75	38.1907	22.40397	2.58699	33.0360
PSYCHOLOGICAL (TRANSFORMED)	YES	56	37.0538	18.04329	2.41114	32.2218
	NO	19	50.2196	21.67187	4.97187	39.7741
	Total	75	40.3892	19.73438	2.27873	35.8487
SOCIAL RELATIONSHIP (TRANSFORMED)	YES	56	50.5949	20.09129	2.68481	45.2144
	NO	19	59.6486	12.19066	2.79673	53.7729
	Total	75	52.8885	18.75849	2.16604	48.5726
ENVIRONMENT (TRANSFORMED)	YES	56	43.2488	19.88823	2.65768	37.9226
	NO	19	46.5479	24.13748	5.53752	34.9140
	Total	75	44.0845	20.92339	2.41602	39.2705

Descriptives

		95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
PHYSICAL (TRANSFORMED)	YES	39.3170	3.57	82.14
	NO	63.0253	14.29	89.29
	Total	43.3454	3.57	89.29

PSYCHOLOGICAL (TRANSFORMED)	YES	41.8858	.00	75.00
	NO	60.6652	12.50	87.50
	Total	44.9296	.00	87.50
SOCIAL RELATIONSHIP (TRANSFORMED)	YES	55.9754	8.33	83.33
	NO	65.5243	41.67	83.33
	Total	57.2044	8.33	83.33
ENVIRONMENT (TRANSFORMED)	YES	48.5749	3.13	87.50
	NO	58.1818	12.50	96.88
	Total	48.8986	3.13	96.88

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PHYSICAL (TRANSFORMED)	Based on Mean	7.778	1	73	.007
	Based on Median	6.921	1	73	.010
	Based on Median and with adjusted df	6.921	1	72.986	.010
	Based on trimmed mean	7.739	1	73	.007
PSYCHOLOGICAL (TRANSFORMED)	Based on Mean	1.303	1	73	.257
	Based on Median	1.317	1	73	.255
	Based on Median and with adjusted df	1.317	1	72.497	.255
	Based on trimmed mean	1.287	1	73	.260
SOCIAL RELATIONSHIP	Based on Mean	7.055	1	73	.010

(TRANSFORMED)	Based on Median	7.416	1	73	.008
	Based on Median and with adjusted df	7.416	1	68.885	.008
	Based on trimmed mean	7.250	1	73	.009
ENVIRONMENT (TRANSFORMED)	Based on Mean	1.636	1	73	.205
	Based on Median	.798	1	73	.375
	Based on Median and with adjusted df	.798	1	66.343	.375
	Based on trimmed mean	1.493	1	73	.226

ANOVA

		Sum of Squares	df	Mean Square	F
PHYSICAL (TRANSFORMED)	Between Groups	3662.983	1	3662.983	7.987
	Within Groups	33480.405	73	458.636	
	Total	37143.388	74		
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	2459.107	1	2459.107	6.810
	Within Groups	26359.879	73	361.094	
	Total	28818.987	74		
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	1162.878	1	1162.878	3.412
	Within Groups	24876.315	73	340.771	
	Total	26039.192	74		
ENVIRONMENT (TRANSFORMED)	Between Groups	154.413	1	154.413	.350
	Within Groups	32241.913	73	441.670	

Total	32396.326	74		

ANOVA

		Sig.
PHYSICAL (TRANSFORMED)	Between Groups	.006
	Within Groups	
	Total	
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	.011
	Within Groups	
	Total	
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	.069
	Within Groups	
	Total	
ENVIRONMENT (TRANSFORMED)	Between Groups	.556
	Within Groups	
	Total	

6. CARDIAC PROBLEM STATUS

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound
PHYSICAL (TRANSFORMED)	YES	9	29.7621	14.61686	4.87229	18.5265

	NO	66	39.3401	23.10764	2.84435	33.6595
	Total	75	38.1907	22.40397	2.58699	33.0360
PSYCHOLOGICAL (TRANSFORMED)	YES	9	34.2589	13.46684	4.48895	23.9074
	NO	66	41.2251	20.37487	2.50797	36.2163
	Total	75	40.3892	19.73438	2.27873	35.8487
SOCIAL RELATIONSHIP (TRANSFORMED)	YES	9	51.8515	16.55120	5.51707	39.1291
	NO	66	53.0299	19.14988	2.35719	48.3223
	Total	75	52.8885	18.75849	2.16604	48.5726
ENVIRONMENT (TRANSFORMED)	YES	9	38.5417	16.01086	5.33695	26.2346
	NO	66	44.8404	21.49466	2.64581	39.5563
	Total	75	44.0845	20.92339	2.41602	39.2705

Descriptives

		95% Confidence Interval for Mean		
		Upper Bound	Minimum	Maximum
PHYSICAL (TRANSFORMED)	YES	40.9976	7.14	53.57
	NO	45.0206	3.57	89.29
	Total	43.3454	3.57	89.29
PSYCHOLOGICAL (TRANSFORMED)	YES	44.6104	8.33	50.00
	NO	46.2339	.00	87.50
	Total	44.9296	.00	87.50
SOCIAL RELATIONSHIP (TRANSFORMED)	YES	64.5739	33.33	75.00
	NO	57.7375	8.33	83.33

	Total	57.2044	8.33	83.33
ENVIRONMENT (TRANSFORMED)	YES	50.8487	15.63	59.38
	NO	50.1244	3.13	96.88
	Total	48.8986	3.13	96.88

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PHYSICAL (TRANSFORMED)	Based on Mean	3.242	1	73	.076
	Based on Median	2.859	1	73	.095
	Based on Median and with adjusted df	2.859	1	71.467	.095
	Based on trimmed mean	3.117	1	73	.082
PSYCHOLOGICAL (TRANSFORMED)	Based on Mean	3.026	1	73	.086
	Based on Median	3.232	1	73	.076
	Based on Median and with adjusted df	3.232	1	72.181	.076
	Based on trimmed mean	3.074	1	73	.084
SOCIAL RELATIONSHIP (TRANSFORMED)	Based on Mean	.241	1	73	.625
	Based on Median	.246	1	73	.621
	Based on Median and with adjusted df	.246	1	71.418	.621
	Based on trimmed mean	.253	1	73	.616
ENVIRONMENT (TRANSFORMED)	Based on Mean	1.680	1	73	.199
	Based on Median	1.347	1	73	.250

	Based on Median and with adjusted df	1.347	1	70.722	.250
	Based on trimmed mean	1.598	1	73	.210

ANOVA

		Sum of Squares	df	Mean Square	F
PHYSICAL (TRANSFORMED)	Between Groups	726.566	1	726.566	1.456
	Within Groups	36416.822	73	498.861	
	Total	37143.388	74		
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	384.343	1	384.343	.987
	Within Groups	28434.644	73	389.516	
	Total	28818.987	74		
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	10.998	1	10.998	.031
	Within Groups	26028.194	73	356.551	
	Total	26039.192	74		
ENVIRONMENT (TRANSFORMED)	Between Groups	314.216	1	314.216	.715
	Within Groups	32082.109	73	439.481	
	Total	32396.326	74		

ANOVA

		Sig.
PHYSICAL (TRANSFORMED)	Between Groups	.231
	Within Groups	

	Total	
PSYCHOLOGICAL (TRANSFORMED)	Between Groups	.324
	Within Groups	
	Total	
SOCIAL RELATIONSHIP (TRANSFORMED)	Between Groups	.861
	Within Groups	
	Total	
ENVIRONMENT (TRANSFORMED)	Between Groups	.401
	Within Groups	
	Total	

CORRELATIONS

Correlations

		PHYSICAL (TRANSFORMED)	PSYCHOLOGICAL (TRANSFORMED)	SOCIAL RELATIONSHIP (TRANSFORMED)	ENVIRONMENT (TRANSFORMED)
PHYSICAL (TRANSFORMED)	Pearson Correlation	1	.890**	.455**	.675**
	Sig. (2-tailed)		.000	.000	.000
	N	75	75	75	75
PSYCHOLOGICAL (TRANSFORMED)	Pearson Correlation	.890**	1	.482**	.688**
	Sig. (2-tailed)	.000		.000	.000
	N	75	75	75	75
SOCIAL RELATIONSHIP (TRANSFORMED)	Pearson Correlation	.455**	.482**	1	.463**
	Sig. (2-tailed)	.000	.000		.000
	N	75	75	75	75
ENVIRONMENT (TRANSFORMED)	Pearson Correlation	.675**	.688**	.463**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	75	75	75	75
GENDER	Pearson Correlation	.091	.042	.181	.285*

	Sig. (2-tailed)	.436	.723	.120	.013
	N	75	75	75	75
AGE_GROUP	Pearson Correlation	-.575**	-.603**	-.399**	-.420**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	75	75	75	75
WORKING_STATUS	Pearson Correlation	-.345**	-.343**	-.299**	-.200
	Sig. (2-tailed)	.002	.003	.009	.085
	N	75	75	75	75
DIABETES	Pearson Correlation	.213	.185	.225	.240*
	Sig. (2-tailed)	.066	.111	.052	.038
	N	75	75	75	75
HYPERTENSION	Pearson Correlation	.314**	.292*	.211	.069
	Sig. (2-tailed)	.006	.011	.069	.556
	N	75	75	75	75
CARDIAC_PROBLEM	Pearson Correlation	.140	.115	.021	.098
	Sig. (2-tailed)	.231	.324	.861	.401
	N	75	75	75	75

Correlations

		GENDER	AGE_GROUP	WORKING_STATUS	DIABETES	HYPERTENSION
PHYSICAL (TRANSFORMED)	Pearson Correlation	.091	-.575**	-.345**	.213	.314**
	Sig. (2-tailed)	.436	.000	.002	.066	.006
	N	75	75	75	75	75

PSYCHOLOGICAL (TRANSFORMED)	Pearson Correlation	.042	-.603**	-.343**	.185	.292*
	Sig. (2-tailed)	.723	.000	.003	.111	.011
	N	75	75	75	75	75
SOCIAL RELATIONSHIP (TRANSFORMED)	Pearson Correlation	.181	-.399**	-.299**	.225	.211
	Sig. (2-tailed)	.120	.000	.009	.052	.069
	N	75	75	75	75	75
ENVIRONMENT (TRANSFORMED)	Pearson Correlation	.285*	-.420**	-.200	.240*	.069
	Sig. (2-tailed)	.013	.000	.085	.038	.556
	N	75	75	75	75	75
GENDER	Pearson Correlation	1	-.084	.035	.149	.038
	Sig. (2-tailed)		.476	.766	.203	.743
	N	75	75	75	75	75
AGE_GROUP	Pearson Correlation	-.084	1	.467**	-.305**	-.275*
	Sig. (2-tailed)	.476		.000	.008	.017
	N	75	75	75	75	75
WORKING_STATUS	Pearson Correlation	.035	.467**	1	.088	-.126
	Sig. (2-tailed)	.766	.000		.453	.281
	N	75	75	75	75	75
DIABETES	Pearson Correlation	.149	-.305**	.088	1	.284*
	Sig. (2-tailed)	.203	.008	.453		.014
	N	75	75	75	75	75
HYPERTENSION	Pearson Correlation	.038	-.275*	-.126	.284*	1
	Sig. (2-tailed)	.743	.017	.281	.014	
	N	75	75	75	75	75

CARDIAC_PROBLEM	Pearson Correlation	.282*	-.300**	-.055	.158	.215
	Sig. (2-tailed)	.014	.009	.642	.175	.064
	N	75	75	75	75	75

Correlations

		CARDIAC_PROBLEM
PHYSICAL (TRANSFORMED)	Pearson Correlation	.140
	Sig. (2-tailed)	.231
	N	75
PSYCHOLOGICAL (TRANSFORMED)	Pearson Correlation	.115
	Sig. (2-tailed)	.324
	N	75
SOCIAL RELATIONSHIP (TRANSFORMED)	Pearson Correlation	.021
	Sig. (2-tailed)	.861
	N	75
ENVIRONMENT (TRANSFORMED)	Pearson Correlation	.098
	Sig. (2-tailed)	.401
	N	75
GENDER	Pearson Correlation	.282*
	Sig. (2-tailed)	.014
	N	75
AGE_GROUP	Pearson Correlation	-.300**
	Sig. (2-tailed)	.009
	N	75

WORKING_STATUS	Pearson Correlation	-.055
	Sig. (2-tailed)	.642
	N	75
DIABETES	Pearson Correlation	.158
	Sig. (2-tailed)	.175
	N	75
HYPERTENSION	Pearson Correlation	.215
	Sig. (2-tailed)	.064
	N	75
CARDIAC_PROBLEM	Pearson Correlation	1
	Sig. (2-tailed)	
	N	75

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

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

Post Hoc Tests

Multiple Comparisons

Dependent Variable		(I) AGE_GROUP	(J) AGE_GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
PHYSICAL (TRANSFORMED)	Tukey HSD	<30	31-60	36.29682*	11.01680	.004	9.9323	62.6614
			>60	55.82042*	11.04038	.000	29.3994	82.2414
		31-60	<30	-36.29682*	11.01680	.004	-62.6614	-9.9323
			>60	19.52360*	4.32731	.000	9.1678	29.8794
		>60	<30	-55.82042*	11.04038	.000	-82.2414	-29.3994
			31-60	-19.52360*	4.32731	.000	-29.8794	-9.1678
	Scheffe	<30	31-60	36.29682*	11.01680	.006	8.7596	63.8340
			>60	55.82042*	11.04038	.000	28.2243	83.4166
		31-60	<30	-36.29682*	11.01680	.006	-63.8340	-8.7596
			>60	19.52360*	4.32731	.000	8.7072	30.3400
		>60	<30	-55.82042*	11.04038	.000	-83.4166	-28.2243
			31-60	-19.52360*	4.32731	.000	-30.3400	-8.7072

PSYCHOLOGICAL (TRANSFORMED)	Tukey HSD	<30	31-60	33.03351*	9.45790	.002	10.3996	55.6674
			>60	51.15210*	9.47815	.000	28.4697	73.8345
		31-60	<30	-33.03351*	9.45790	.002	-55.6674	-10.3996
			>60	18.11858*	3.71499	.000	9.2282	27.0090
		>60	<30	-51.15210*	9.47815	.000	-73.8345	-28.4697
			31-60	-18.11858*	3.71499	.000	-27.0090	-9.2282
	Scheffe	<30	31-60	33.03351*	9.45790	.004	9.3929	56.6741
			>60	51.15210*	9.47815	.000	27.4609	74.8433
		31-60	<30	-33.03351*	9.45790	.004	-56.6741	-9.3929
			>60	18.11858*	3.71499	.000	8.8327	27.4044
		>60	<30	-51.15210*	9.47815	.000	-74.8433	-27.4609
			31-60	-18.11858*	3.71499	.000	-27.4044	-8.8327
SOCIAL RELATIONSHIP (TRANSFORMED)	Tukey HSD	<30	31-60	-2.25495	10.29311	.974	-26.8876	22.3777
			>60	14.04419	10.31514	.366	-10.6412	38.7296
		31-60	<30	2.25495	10.29311	.974	-22.3777	26.8876
			>60	16.29915*	4.04305	.000	6.6236	25.9747
		>60	<30	-14.04419	10.31514	.366	-38.7296	10.6412
			31-60	-16.29915*	4.04305	.000	-25.9747	-6.6236
	Scheffe	<30	31-60	-2.25495	10.29311	.976	-27.9832	23.4733
			>60	14.04419	10.31514	.400	-11.7392	39.8275
		31-60	<30	2.25495	10.29311	.976	-23.4733	27.9832
			>60	16.29915*	4.04305	.001	6.1933	26.4050
		>60	<30	-14.04419	10.31514	.400	-39.8275	11.7392
			31-60	-16.29915*	4.04305	.001	-26.4050	-6.1933

ENVIRONMENT (TRANSFORMED)	Tukey HSD	<30	31-60	11.31914	11.54383	.591	-16.3067	38.9450
			>60	27.50290	11.56854	.052	-.1820	55.1879
		31-60	<30	-11.31914	11.54383	.591	-38.9450	16.3067
			>60	16.18376*	4.53433	.002	5.3326	27.0350
		>60	<30	-27.50290	11.56854	.052	-55.1879	.1820
			31-60	-16.18376*	4.53433	.002	-27.0350	-5.3326
	Scheffe	<30	31-60	11.31914	11.54383	.620	-17.5354	40.1737
			>60	27.50290	11.56854	.066	-1.4134	56.4192
		31-60	<30	-11.31914	11.54383	.620	-40.1737	17.5354
			>60	16.18376*	4.53433	.003	4.8499	27.5176
		>60	<30	-27.50290	11.56854	.066	-56.4192	1.4134
			31-60	-16.18376*	4.53433	.003	-27.5176	-4.8499

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: PHYSICAL (TRANSFORMED)

Tukey HSD

(I) AGE_GROUP	(J) AGE_GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound
<30	31-60	36.29682*	11.01680	.004	9.9323

	>60	55.82042*	11.04038	.000	29.3994
31-60	<30	-36.29682*	11.01680	.004	-62.6614
	>60	19.52360*	4.32731	.000	9.1678
>60	<30	-55.82042*	11.04038	.000	-82.2414
	31-60	-19.52360*	4.32731	.000	-29.8794

Multiple Comparisons

Dependent Variable: PHYSICAL (TRANSFORMED)

Tukey HSD

		95% Confidence Interval
(I) AGE_GROUP	(J) AGE_GROUP	Upper Bound
<30	31-60	62.6614
	>60	82.2414
31-60	<30	-9.9323
	>60	29.8794
>60	<30	-29.3994
	31-60	-9.1678

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: PSYCHOLOGICAL (TRANSFORMED)

Tukey HSD

(I) AGE_GROUP	(J) AGE_GROUP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound
<30	31-60	33.03351*	9.45790	.002	10.3996
	>60	51.15210*	9.47815	.000	28.4697
31-60	<30	-33.03351*	9.45790	.002	-55.6674
	>60	18.11858*	3.71499	.000	9.2282
>60	<30	-51.15210*	9.47815	.000	-73.8345
	31-60	-18.11858*	3.71499	.000	-27.0090

Multiple Comparisons

Dependent Variable: PSYCHOLOGICAL (TRANSFORMED)

Tukey HSD

(I) AGE_GROUP	(J) AGE_GROUP	95% Confidence Interval Upper Bound
<30	31-60	55.6674
	>60	73.8345
31-60	<30	-10.3996
	>60	27.0090
>60	<30	-28.4697
	31-60	-9.2282

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) AGE_GROUP	(J) AGE_GROUP	Mean Difference (I-J)	Std. Error	Sig.
SOCIAL RELATIONSHIP (TRANSFORMED)	<30	31-60	-2.25495	10.29311	.974
		>60	14.04419	10.31514	.366
	31-60	<30	2.25495	10.29311	.974
		>60	16.29915*	4.04305	.000
	>60	<30	-14.04419	10.31514	.366
		31-60	-16.29915*	4.04305	.000
ENVIRONMENT (TRANSFORMED)	<30	31-60	11.31914	11.54383	.591
		>60	27.50290	11.56854	.052
	31-60	<30	-11.31914	11.54383	.591
		>60	16.18376*	4.53433	.002
	>60	<30	-27.50290	11.56854	.052
		31-60	-16.18376*	4.53433	.002

Multiple Comparisons

Tukey HSD

			95% Confidence Interval	
Dependent Variable	(I) AGE_GROUP	(J) AGE_GROUP	Lower Bound	Upper Bound
SOCIAL RELATIONSHIP	<30	31-60	-26.8876	22.3777

(TRANSFORMED)		>60	-10.6412	38.7296
	31-60	<30	-22.3777	26.8876
		>60	6.6236	25.9747
	>60	<30	-38.7296	10.6412
		31-60	-25.9747	-6.6236
ENVIRONMENT (TRANSFORMED)	<30	31-60	-16.3067	38.9450
		>60	-.1820	55.1879
	31-60	<30	-38.9450	16.3067
		>60	5.3326	27.0350
	>60	<30	-55.1879	.1820
		31-60	-27.0350	-5.3326

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) AGE_GROUP	(J) AGE_GROUP	Mean Difference (I-J)	Std. Error	Sig.

SOCIAL RELATIONSHIP (TRANSFORMED)	<30	31-60	-2.25495	10.29311	.974
		>60	14.04419	10.31514	.366
	31-60	<30	2.25495	10.29311	.974
		>60	16.29915*	4.04305	.000
	>60	<30	-14.04419	10.31514	.366
		31-60	-16.29915*	4.04305	.000
ENVIRONMENT (TRANSFORMED)	<30	31-60	11.31914	11.54383	.591
		>60	27.50290	11.56854	.052
	31-60	<30	-11.31914	11.54383	.591
		>60	16.18376*	4.53433	.002
	>60	<30	-27.50290	11.56854	.052
		31-60	-16.18376*	4.53433	.002
PHYSICAL (TRANSFORMED)	<30	31-60	36.29682*	11.01680	.004
		>60	55.82042*	11.04038	.000
	31-60	<30	-36.29682*	11.01680	.004
		>60	19.52360*	4.32731	.000
	>60	<30	-55.82042*	11.04038	.000
		31-60	-19.52360*	4.32731	.000
PSYCHOLOGICAL (TRANSFORMED)	<30	31-60	33.03351*	9.45790	.002
		>60	51.15210*	9.47815	.000
	31-60	<30	-33.03351*	9.45790	.002
		>60	18.11858*	3.71499	.000
	>60	<30	-51.15210*	9.47815	.000

	31-60	-18.11858*	3.71499	.000

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) AGE_GROUP	(J) AGE_GROUP	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
SOCIAL RELATIONSHIP (TRANSFORMED)	<30	31-60	-26.8876	22.3777
		>60	-10.6412	38.7296
	31-60	<30	-22.3777	26.8876
		>60	6.6236	25.9747
	>60	<30	-38.7296	10.6412
		31-60	-25.9747	-6.6236
ENVIRONMENT (TRANSFORMED)	<30	31-60	-16.3067	38.9450
		>60	-.1820	55.1879
	31-60	<30	-38.9450	16.3067
		>60	5.3326	27.0350
	>60	<30	-55.1879	.1820
		31-60	-27.0350	-5.3326
PHYSICAL (TRANSFORMED)	<30	31-60	9.9323	62.6614
		>60	29.3994	82.2414
	31-60	<30	-62.6614	-9.9323
		>60	9.1678	29.8794
	>60	<30	-82.2414	-29.3994
		31-60	-29.8794	-9.1678

PSYCHOLOGICAL (TRANSFORMED)	<30	31-60	10.3996	55.6674
		>60	28.4697	73.8345
	31-60	<30	-55.6674	-10.3996
		>60	9.2282	27.0090
	>60	<30	-73.8345	-28.4697
		31-60	-27.0090	-9.2282

*. The mean difference is significant at the 0.05 level.

Post Hoc Tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) WORKING_STATUS	(J) WORKING_STATUS	Mean Difference (I-J)	Std. Error
PHYSICAL (TRANSFORMED)	WORKING	NOT WORKING	10.82951	5.65001
		RETIRED	21.20613*	6.88062
	NOT WORKING	WORKING	-10.82951	5.65001
		RETIRED	10.37662	6.43360
	RETIRED	WORKING	-21.20613*	6.88062
		NOT WORKING	-10.37662	6.43360
PSYCHOLOGICAL (TRANSFORMED)	WORKING	NOT WORKING	11.14681	4.97300
		RETIRED	18.23035*	6.05615
	NOT WORKING	WORKING	-11.14681	4.97300
		RETIRED	7.08354	5.66270
	RETIRED	WORKING	-18.23035*	6.05615
		NOT WORKING	-7.08354	5.66270
SOCIAL RELATIONSHIP (TRANSFORMED)	WORKING	NOT WORKING	3.46162	4.76834
		RETIRED	16.31826*	5.80691
	NOT WORKING	WORKING	-3.46162	4.76834

		RETIRED	12.85665	5.42965
	RETIRED	WORKING	-16.31826*	5.80691
		NOT WORKING	-12.85665	5.42965
ENVIRONMENT (TRANSFORMED)	WORKING	NOT WORKING	-.43882	5.43121
		RETIRED	12.82635	6.61416
	NOT WORKING	WORKING	.43882	5.43121
		RETIRED	13.26517	6.18445
	RETIRED	WORKING	-12.82635	6.61416
		NOT WORKING	-13.26517	6.18445

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) WORKING_STATUS	(J) WORKING_STATUS	Sig.	95% Confidence Interval Lower Bound
PHYSICAL (TRANSFORMED)	WORKING	NOT WORKING	.141	-2.6917
		RETIRED	.008	4.7400
	NOT WORKING	WORKING	.141	-24.3507
		RETIRED	.247	-5.0198
	RETIRED	WORKING	.008	-37.6723
		NOT WORKING	.247	-25.7730
PSYCHOLOGICAL (TRANSFORMED)	WORKING	NOT WORKING	.071	-.7542
		RETIRED	.010	3.7372
	NOT WORKING	WORKING	.071	-23.0478

		RETIRED	.428	-6.4680
	RETIRED	WORKING	.010	-32.7235
		NOT WORKING	.428	-20.6351
SOCIAL RELATIONSHIP (TRANSFORMED)	WORKING	NOT WORKING	.749	-7.9496
		RETIRED	.017	2.4216
	NOT WORKING	WORKING	.749	-14.8728
		RETIRED	.053	-.1372
	RETIRED	WORKING	.017	-30.2149
		NOT WORKING	.053	-25.8505
ENVIRONMENT (TRANSFORMED)	WORKING	NOT WORKING	.996	-13.4364
		RETIRED	.135	-3.0021
	NOT WORKING	WORKING	.996	-12.5587
		RETIRED	.088	-1.5350
	RETIRED	WORKING	.135	-28.6549
		NOT WORKING	.088	-28.0653

Multiple Comparisons

Tukey HSD

			95% Confidence Interval
Dependent Variable	(I) WORKING_STATUS	(J) WORKING_STATUS	Upper Bound
PHYSICAL (TRANSFORMED)	WORKING	NOT WORKING	24.3507
		RETIRED	37.6723
	NOT WORKING	WORKING	2.6917

		RETIRED	25.7730
	RETIRED	WORKING	-4.7400
		NOT WORKING	5.0198
PSYCHOLOGICAL (TRANSFORMED)	WORKING	NOT WORKING	23.0478
		RETIRED	32.7235
	NOT WORKING	WORKING	.7542
		RETIRED	20.6351
	RETIRED	WORKING	-3.7372
		NOT WORKING	6.4680
SOCIAL RELATIONSHIP (TRANSFORMED)	WORKING	NOT WORKING	14.8728
		RETIRED	30.2149
	NOT WORKING	WORKING	7.9496
		RETIRED	25.8505
	RETIRED	WORKING	-2.4216
		NOT WORKING	.1372
ENVIRONMENT (TRANSFORMED)	WORKING	NOT WORKING	12.5587
		RETIRED	28.6549
	NOT WORKING	WORKING	13.4364
		RETIRED	28.0653
	RETIRED	WORKING	3.0021
		NOT WORKING	1.5350

*. The mean difference is significant at the 0.05 level.