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Mental Health And Hope Among Patients Undergoing Hemodialysis

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ABSTRACT
Chronic disease of the kidney is an important cause of global mortality and morbidity.it has become a fast-expanding global problem related to health in all nations. End-stage renal disease is a complex, progressive, and debilitating illness that affects a patient's quality of life, physical, and mental health, well-being, social functioning, and emotional health. Chronic kidney failure causes many limitations for patients. Despite the effectiveness of hemodialysis this method causes mental problems and frustration in patients. In the present study, the investigator aimed to assess the level of mental health and hope among patients undergoing hemodialysis. The researcher adopted a Descriptive Research design, and the data was collected through a questionnaire. Simple random sampling was used. A hundred samples were collected from the hospital and the dialysis center, Mental Health Inventory (MHI-38) by Veil and Ware (1983) and Herth Hope scale were used to collect the Data. There will be a positive relationship between Mental Health and Hope among patients undergoing hemodialysis.

Keywords: *Chronic kidney disease, End stage renal disease, mental health and hope*

1. INTRODUCTION

Chronic kidney disease (CKD). Also called chronic kidney failure, involves a gradual loss of kidney function. CKD is associated with an increased risk of end-stage renal disease (ESRD) Chronic disease of an important cause of global mortality and morbidity. It has become a fast-expanding global problem related to health in all nations. CKD based on the estimated GFR, the fifth stage is end-stage renal failure, where the GFR falls below 15 ml/mt. World Health Organization has ranked CKD as the tenth major cause of death in their bulletin.it is predicted that the incidence of CKD will rise further and can become the fifth leading cause of years of life lost by 2040. Approximately 15% of the adult population in the US is affected by CKD. The terminal stage of CKD is represented by ESRD, approximately 152 people/million population are affected by ESRD. In opposition to these 7500 kidney transplantations are carried out in India at around 250 centers for kidney transplants. According to the organ and tissue transplantation organization, 5,486 kidney transplants were done in India and 792 kidney transplants in Delhi in the year 2020. After US India has the largest living kidney transplantation program in numbers.

STAGES OF CHRONIC KIDNEY DISEASE:

Stage 1with normal or high GFR (GFR 90 ml\min)

Stage 2 Mild CKD (GFR=60-89 ml\min)

Stage 3A Moderate CKD (GFR=45-59 ml\min)

Stage 3B Moderate CKD (GFR=30-44 ml\min)

Stage 4 Severe CKD (GFR=15-29 ml\min)

Stage 5 End stage CKD (GFR 15 ml\min)

2. HEMODIALYSIS

Hemodialysis is one of the renal transplant therapies that filters waste, removes extra fluid, and balances electrolytes such as sodium, potassium, bicarbonate, chloride calcium, magnesium, and phosphate. Hemodialysis can be performed in a dialysis center or hospital by trained healthcare professionals. A special type of venous access called an Arteriovenous (AV) fistula is placed surgically usually in the arm. This involves joining an artery and a vein together, an external central, intravenous, (IV) catheter may also be inserted but is less common for long term dialysis after access has been established ,it will be

connected to a large hemodialysis machine that drains the blood, Dialysate bath is a special solution which removes waste substances and fluid, then returns it to the bloodstream, Hemodialysis is usually performed thrice or twice a week and lasts for four to five hours.

3. MENTAL HEALTH

According to WHO, mental health is "more than just the absence of mental disorders or disabilities. "The WHO's definition of health, which is outlined in its constitution, emphasizes the positive aspect of mental health, stating that; "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

In the medical dictionary of Med lexicon, mental health is defined as; "Emotional, behavioral and social maturity or normality; the absence of mental or behavioral disorder, a state of psychological well-being in which one has achieved a satisfactory integration of one's instinctual drives acceptable to both oneself and one's social milieu ;an appropriate balance of love, work and leisure pursuits'.

According to Keyes(2002) 'Mental health is best operationalized as syndrome that combines symptoms of emotional well-being with symptoms of psychological and social well-being subjective emotional well-being(hedonic) and subjective psychological and social well-being (positive functioning) are two measures that have been used to conceptualize and diagnose mental health as a condition of happy feelings and functioning in life.

4. HOPE

Hope is an interdisciplinary construct being studied and researched currently as a subject of philosophy, religion, health, and psychology, in 1991, Snyder and colleagues offered a specific definition of hope one form of the definition was a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-oriented energy) and (b) pathways (planning to meet goals)' (Synder, Irving, and Anderson, 1991, as cited in Snyder 2000.

Although there are varieties of conceptualizations of hope, there is agreement on the essential characteristics of the concept, hope a factor in coping, is future oriented and considered to be multidimensional by most theorists.it enables an individual to cope with a stressful situation by expecting a positive outcome. Because a positive outcome is expected, the individual is motivated to act in the face of uncertainty.

Hope is a particularly interesting attribute that can serve as a motivational factor to help initiate and sustain action towards goals and has also been linked to happiness, perseverance, and health (Peterson, 2000)

5. HOPE AND HEALTH

Hope and health are associated indirectly through optimism and active coping and some studies and research findings show how a person's hopeful thinking may be linked directly to health in general in a study, spinal cord injury patients with higher hope coped better and it was evident that they exhibited less depression (Elliot Witty & Hoffman, 1991)

6. NEED FOR THE STUDY

The end-stage renal disease occurs when the gradual loss of kidney function reaches an advanced state and is no longer able to work to meet the body's needs. Hemodialysis is considered as the most widely used therapy and plays an essential role in increasing a patient's lifetime Hemodialysis patients are significantly less active than healthy, sedentary individuals, and their physical deterioration is independently associated with decreased mental health and hope. The present study aimed to identify mental health and hope among patients undergoing hemodialysis.

7. REVIEW OF LITERATURE

Review of literature is a key step in the research process. A review of literature is a comprehensive assessment that includes all the relevant research and supporting documents in print. The literature review is essential to locate similar or related studies that have already been completed which may help the investigator to develop deeper insight into the problem and gain information about the existing studies.

The purpose of reviewing related literature, in any field, helps the individual to gain information about what has already been investigated, the methodology used, the conclusions arrived and what more needs to be done in the future. This chapter reviews some of the literature which is relevant and useful to the present study in identifying and focusing attention on the problem, analysis, and interpretation of data. The literature reviewed, related to the present study, is organized and presented under the following sections:

Section I: Literature related to ESRD.

Radhakrishnan (2017) conducted a prospective study of 127 ESRD patients on dialysis between January 2013 and December 2014 in rural south India. The results of the study indicated that a total of 101 males and 26 females with a mean age of 50.05±13.80 years participated in this study. A total of 87.4% of dialysis patients had emergency dialysis, 6.30% of patients

had started dialysis with an arteriovenous Venous Fistula while 93.70% with a temporary catheter. The study results also showed that 3.94% were transferred to other centers, 16.54% died, 0.79% underwent transplantation, 33.07% continued hemodialysis and a majority 45.67% had stopped dialysis. The findings also inferred that, sepsis as the most common cause of death. The Kaplan-Meier analyses showed the median survival time on dialysis as 64 days. The authors concluded that the patients initiated on hemodialysis in rural areas often present late with poor pre-dialysis care leading to high morbidity.

Ravikumar P, et al. (2019) conducted a Community-based cross-sectional study to identify the prevalence of Chronic Kidney Disease (CKD) and its determinants among adults in Rural Pondicherry, India. A sample of 422 adults aged to 50 years from both genders, were selected by population proportional to size method in 13 villages covering 32265 population of Primary Health Centre in rural Pondicherry between January 2016 to September 2017.

The results of this study showed that 73.5% of the CKD cases were at stage two, 15% of them at stage 3a, and 2% of them in stage 3b. The determinants of CKD were (60 to 69 years, PR:2.36, CI:1.36-4.07), poor nutrition and poor nutritional status (underweight: PR:2.26, CI:1.05-4.89), (overweight: PR:2.19, CI:1.06-4.5), obese (PR:2.13, CI:1.13-4.01), and presence of chronic comorbidity (PR:5.85, CI:1.38-24.78). The authors concluded that due to a higher prevalence of CKD in the study area, targeted screening of the adult population like early detection, diagnosis, treatment, and follow-up would prevent further progression of CKD.

Crews and Bello (2019) conducted a study on the burden, assessment, and disparities in kidney diseases. In this study, the authors identified that kidney disease is a global public health problem that affects more than 750 million people worldwide. The burden of kidney disease varies substantially across the world, as does its detection and treatment. The magnitude and impact of kidney diseases are better defined in developed countries, emerging evidence suggests that developing countries have a similar or even greater kidney disease burden. The authors concluded that the provision and delivery of kidney care vary widely across the world. Achieving universal health coverage, worldwide, by 2030 is one of the WHO sustainable developmental goals. The universal health coverage may not include all the elements of kidney care in all countries (because this is usually a function of political, economic, and cultural factors), understanding what is feasible and important for a country or region with a focus on reducing the burden and consequences of kidney diseases would be an important step towards achieving kidney health equity.

Carney (2020) conducted a study on the impact of chronic kidney disease on global health. The main aim of this global burden of disease study was to provide policymakers worldwide with upto-date information on health outcomes that are comparable between diseases, combining information on death and non-fatal disease. In 2017, CKD resulted in 1.2 million deaths and was the 12th leading cause of death worldwide. Totally, 7.6% of all cardiovascular deaths (1.4 million) could be attributed to impaired kidney function. Deaths due to CKD can be attributed to Cardiovascular Disease (CVD) which is nearly 4.6% of all causes of mortality. Global all-age CKD mortality increased by 41.5% between 1990 and 2017, whereas age-standardized CKD mortality remained stable. This author also estimated that in 2017 CKD resulted in 35.8 million lifelong disability-adjusted, whereas 25.3 million CVD lifelong disabilities could be attributed to impaired kidney diseases.

Further, the author suggested early CKD detection and prevention in high-risk groups as well as the provision of essential medicines for patients with CKD.

Section II: Review of literature related to Mental well-being and Hope.

Yuan fang, zhongyan su, zhiyan chen(2023), study was to find out the Mental health and its influencing factors of maintenance hemodialysis patients :a semi structured interview study, Maintenance hemodialysis (MHD) is a commonly used renal replacement therapy for end stage renal disease patients, MHD patients have undergone multiple physiological stressor, which may cause physical problems and affect their mental health, based on the application of grounded theory, semi-structured face - to - face interviews were conducted with 35 MHD patients, following consolidated criteria for reporting qualitative studies (COREQ) guidelines, two indicators (emotional state and well-being), were used to asses MHD patients mental health, high acceptance of disease, health coping styles and high social support were positively correlated with mental health, in contrast low acceptance of disease, multiple complications, increased stress, and unhealthy coping styles were negatively correlated mental health.

Bouma s, Robin WH, Vernooij, Marc H Hemmeldes (2023), study was to find out the difference in mental health status during COVID-19 Pandemic In-center hemodialysis and peritoneal dialysis patients, in this study, the research conducted repeated cross - section analysis between ICHD and PD patients from the start of the COVID-19 Pandemic, the aim of the study was to assess whether dialysis modality affected the mental health of patients during the COVID-19 Pandemic, mental health related quality of life (HRQOL), was assessed during the mental component summary (MCS) score of 12 items short form (SF-12),health survey, MCS scores and the prevalence of mental symptoms between ICHD and PD patients were compared with t-test and chi-square test for the analysis, 1274 patients (968,ICD,and 306 PD) were included, during the Pandemic, mean, MCS score also did not differ between ICHD and PD patients, in contrast, ICHD patients more often reported feelings of nervousness, irritable and anxious during the Pandemic the result was found that ICHD patients experienced more mental symptoms compared to PD patients in the period of September 2020 to June 2021, which

corresponds with the second lock down of the COVID-19 Pandemic.

Winnie Kwok Wei so, kai chow Choi, and Jieling Elaine (2023) study was to find out Hope, quality of life and psychological distress in patients on peritoneal dialysis,,, Hope is a goal - directed through that reflects the sense of control over uncertainty and can promote adjustment to chronic illness, this study aimed to assess the level of hope among patients on peritoneal dialysis and evaluate the association of hope with health - related quality of life and psychological distress. The study included 134 Chinese patients receiving peritoneal dialysis in Hong Kong, the adult trait hope scale was used to assess the level of hope,participants who were employed, had a higher income and received automated peritoneal dialysis reported a higher hope score, Hope was found to have significant corrections with age and social support, a higher hope score was associated with better mental well-being and less severe depressive symptoms..

8. RESEARCH GAP

The End stage renal disease (ESRD) is a very important factor for increasing mortality and morbidity in non-communicable diseases. The number of ESRD patients undergoing dialysis and renal replacement therapies has increased and it is expected to increase to 5.4 million in 2030.The impact of kidney disease varies significantly across the earth, although there are many unanswered questions on how to manage patients with ESRD, on their psychological aspects, some studies are conducted in India when compared to the foreign countries on the psychological aspects in the recent years.

9. RESEARCH OBJECTIVE

1) To analyze the level of mental health and hope among patients undergoing hemodialysis with respect to their profile characteristics.

2) To investigate the relationship between mental health's and Hope among patients undergoing hemodialysis.

10. METHODOLOGY

RESEARCH DESIGN:

The present research is non-experimental, quantitative, and descriptive.

11. SAMPLING METHOD

The research adopts a simple random sampling method, for the selection of samples the data is to be collected using a questionnaire.

SAMPLE SIZE:

100 Samples to be collected.

12. INCLUSION CRITERIA

- All HD patients
- Patients aged from 35 yrs. to 65 yrs.
- Interested people who are willing to participate in the study.
- Do not suffer from psychiatric illness.
- Being conscious and cooperative.

13. EXCLUSION CRITERIA

- Patients declined to answer the questionnaire.
- Patients with other chronic illnesses such as heart diseases.
- Patients who have voluntarily withdrawn from dialysis.
- Patients suffering from speech and hearing problems.

14. TOOLS OF DATA COLLECTION

The questionnaire was used as a tool for the purpose of collecting Data from the respondents. The questionnaire comprises three parts, 1. personal details, 2. Mental health 3. Hope. The researcher used the following scales for data collection.

1. MENTAL HEALTH INVENTORY (MHI-38) Veil and Ware

Mental Health Inventory (MHI-38) developed by Veil and Ware (1983) was used in the present study for data collection .it

contains 38 items and each item is followed by sis alternatives.

All the 38 items in Mental Health Inventory except two are scored on six point scales (range 1-6). items 9 and 28 are the exception, each scored on a five point scale (range1-5)

2. HERTH HOPE INDEX (HHI) – (Herth, 1992)

Herth Hope Index is the adaptation of the Herth Hope Scale(HHS) which is designed to make use for the clinical setting, "it measures the overall hope level of the people" The HHI was based on the Likert scale items of which scores ranged from 1 (strongly disagree),through (strongly agree). Moreover ,item 6 has a reverse scoring pattern However the scoring starts from 12 and goes up to 48 points .it is thus maintained that the higher the score on the scale would be, the greater would be the level of hope in perfect accordance.

The HHI consists of three factors wherein every factor has four items respectively these items are as under

a) Inner sense of temporality and future
b) Inner positive readiness and expectancy
c) Inner connectedness with self and others.

15. LIMITATIONS

The study is limited to the subjects with ESRD Stage 5 as per glomerular filtration rate.

The study is limited to subjects with ESRD undergoing hemodialysis from selected hospitals

The study is limited to a small sample size of 100.

Table 1: Showing the percentage distribution of the demographic variable of ESRD Patients

Variables	Sub variables	Percentage (N=100)
Age	35-55	56
	56-74	37
	75 & above	7
Gender	Male	81
	Female	19
Marital status	Married	90
	Unmarried	10
Occupation	sedentary	23
	Moderate	48
	Heavy	14
	Unemployed	15
Family Income	5000-25000	27
	25001-40000	44
	40001 and above	29
Duration	Below 5 years	64
	5-10 years	31
	Above 10 years	5
Education	Secondary school	14

	Diploma	59
	Undergraduate	19
	Postgraduate	58
Residence	Rural	34
	Urban	66

From table 1, the sample of 100 participants shows a diverse demographic profile. A majority (56%) are aged 35-55, followed by 37% aged 56-74, and 7% aged 75 and above. The sample is predominantly male (81%) and married (90%). Occupation-wise, 48% have moderate physical activity, while 23% have sedentary jobs, 14% work in heavy labour, and 15% are unemployed. Regarding family income, 44% earn between 25,001-40,000, 29% earn above 40,000, and 27% earn between 5,000-25,000. Most participants (64%) have lived in their current residence for less than five years, with 31% living there for 5-10 years, and 5% for over 10 years. Educationally, the sample is well-educated, with 59% holding a diploma, 58% having postgraduate degrees, and 19% having undergraduate degrees. The majority reside in urban areas (66%), while 34% live in rural areas.

Table 2: Showing the Independent sample t-test for mental health with respect to demographic variables

Variables	**Sub variables**	**N**	**Mean**	**Standard Deviation**	**t-value**	**Sig value**
Gender	Male	81	152.58	40.63	.713	.478
	Female	19	145.15	41.74		
Residence	Rural	34	147.147	49.13	.641	.525
	urban	66	153.242	35.91		
Marital status	Married	90	151.367	40.39	.130	.899
	Unmarried	10	149.400	46.02		

With respect to Mental health, based on gender, males (N=81) have a mean of 152.58 with a standard deviation of 40.63, while females (N=19) have a mean of 145.15 with a standard deviation of 41.74. The t-value is 0.713, and the significance value (p-value) is 0.478, indicating no significant difference between the two groups. Here the null hypothesis is failed to reject.

With respect to Mental health, based on **residence**, individuals living in rural areas (N=34) have a mean of 147.147 with a standard deviation of 49.13, while those living in urban areas (N=66) have a mean of 153.242 with a standard deviation of 35.91. The t-value is 0.641, and the significance value is 0.525, indicating no significant difference between the rural and urban groups. Here the null hypothesis is failed to reject.

With respect to Mental health, based on **marital status**, married individuals (N=90) have a mean of 151.367 with a standard deviation of 40.39, while unmarried individuals (N=10) have a mean of 149.400 with a standard deviation of 46.02. The t-value is 0.130, and the significance value is 0.899, indicating no significant difference between the married and unmarried groups. Here the null hypothesis is failed to reject.

Table 3: Showing the Independent sample t-test for hope scale with respect to demographic variables

Variables	**Sub variables**	**N**	**Mean**	**Standard Deviation**	**t-value**	**Sig value**
Gender	Male	81	30.18	7.68	.846	.400
	Female	19	28.52	7.72		
Residence	Rural	34	28.97	8.33	.839	.403

	urban	66	30.33	7.34		
Marital status	Married	90	29.91	7.61	.144	.888
	Unmarried	10	29.50	8.66		

With respect to hope, based on **gender**, males (N=81) have a mean of 30.18 with a standard deviation of 7.68, while females (N=19) have a mean of 28.52 with a standard deviation of 7.72. The t-value is 0.846, and the significance value is 0.400, indicating no significant difference between males and females. Here the null hypothesis is failed to reject.

With respect to hope, based on **residence**, individuals from rural areas (N=34) have a mean of 28.97 with a standard deviation of 8.33, while those from urban areas (N=66) have a mean of 30.33 with a standard deviation of 7.34. The t-value is 0.839, and the significance value is 0.403, showing no significant difference between rural and urban residents. Here the null hypothesis is failed to reject.

With respect to hope, based on **marital status**, married individuals (N=90) have a mean of 29.91 with a standard deviation of 7.61, while unmarried individuals (N=10) have a mean of 29.50 with a standard deviation of 8.66. The t-value is 0.144, and the significance value is 0.888, indicating no significant difference between married and unmarried participants. Here the null hypothesis is failed to reject.

Table 4: Showing the one-way ANOVA for Mental health with respect to demographic variables

Variables	**Sub variables**	**N**	**Mean**	**Standard Deviation**	**F-value**	**Sig value**
Family Income	5000-25000	27	142.33	46.67	6.493	.002
	25001-40000	44	142.22	41.41		
	40001 and above	29	172.96	22.79		
Education	Secondary school	14	142.85	42.80	4.207	.008
	Diploma	59	143.55	41.37		
	Undergraduate	19	165.42	32.93		
	Postgraduate	8	188.00	19.25		
Duration	Below 5 years	64	141.98	43.25	6.084	.003
	5-10 years	31	163.64	29.94		
	Above 10 years	5	191.40	17.60		
Occupation	sedentary	23	161.60	36.54	1.543	.208
	Moderate	48	153.81	37.27		
	Heavy	14	136.85	51.68		
	Unemployed	15	140.06	44.20		
Age	35-55	56	150.48	41.96	3.506	.034
	56-74	37	145.16	39.07		
	75 & above	7	188.42	15.47		

For mental health based on **family income**, those with an income of 40,001 and above (N=29) have the highest mean (172.96) with a standard deviation of 22.79, while those in the 5,000-25,000 (N=27) and 25,001-40,000 (N=44) brackets have similar means (142.33 and 142.22, respectively). The F-value is 6.493, and the p-value is 0.002, indicating a significant difference in the means of the income groups. Here the null hypothesis is failed to accept.

For mental health based on **education**, postgraduate individuals (N=8) have the highest mean (188.00), followed by

undergraduates (N=19) with a mean of 165.42. Secondary school graduates (N=14) and diploma holders (N=59) have means of 142.85 and 143.55, respectively. The F-value is 4.207, with a p-value of 0.008, showing a significant difference in education levels. Here the null hypothesis is failed to accept.

For mental health based on **duration of residence**, individuals living in the area for more than 10 years (N=5) have the highest mean (191.40), followed by those who have lived there for 5-10 years (N=31) with a mean of 163.64, and those living there for less than 5 years (N=64) with a mean of 141.98. The F-value is 6.084, and the p-value is 0.003, indicating a significant difference based on the duration of residence. Here the null hypothesis is failed to accept.

For mental health based on **occupation**, sedentary workers (N=23) have a mean of 161.60, while moderate (N=48) and heavy workers (N=14) have means of 153.81 and 136.85, respectively. Unemployed individuals (N=15) have a mean of 140.06. However, the F-value is 1.543, with a p-value of 0.208, suggesting no significant difference between the occupation groups. Here the null hypothesis is failed to reject.

For mental health based on **age**, those aged 75 and above (N=7) have the highest mean (188.42), followed by the 35-55 age group (N=56) with a mean of 150.48, and the 56-74 age group (N=37) with a mean of 145.16. The F-value is 3.506, and the p-value is 0.034, indicating a significant difference in means between the age groups. Here the null hypothesis is failed to accept.

Table 5: Showing the one-way ANOVA for Hope scale with respect to demographic variables

Variables	Sub variables	N	Mean	Standard Deviation	F-value	Sig value
Family Income	5000-25000	27	27.81	8.47	6.395	.002
	25001-40000	44	28.45	6.92		
	40001 and above	29	33.93	6.62		
Education	Secondary school	14	27.00	7.67	6.405	.001
	Diploma	59	28.55	7.37		
	Undergraduate	19	32.26	6.41		
	Postgraduate	8	38.87	5.43		
Duration	Below 5 years	64	27.76	7.39	9.205	.001
	5-10 years	31	32.80	6.54		
	Above 10 years	5	38.60	6.73		
Occupation	sedentary	23	32.95	7.76	2.627	.055
	Moderate	48	30.06	7.04		
	Heavy	14	27.00	9.02		
	Unemployed	15	27.20	6.98		
Age	35-55	56	29.14	7.07	6.921	.002
	56-74	37	29.10	7.97		
	75 & above	7	39.71	3.45		

For hope scale based on **family income**, individuals earning between 40,001 and above (N=29) have the highest mean (33.93), followed by those earning 25,001-40,000 (N=44) with a mean of 28.45, and those earning between 5,000-25,000 (N=27) with a mean of 27.81. The F-value is 6.395 with a p-value of 0.002, indicating a significant difference across income groups. Here the null hypothesis is failed to accept

For hope scale based on **education**, postgraduate participants (N=8) have the highest mean (38.87), followed by undergraduates (N=19) with a mean of 32.26, while diploma holders (N=59) have a mean of 28.55, and secondary school graduates (N=14) have the lowest mean (27.00). The F-value is 6.405, with a p-value of 0.001, suggesting significant

differences across education levels. Here the null hypothesis is failed to accept

For hope scale based on **duration of residence**, individuals living in the area for more than 10 years (N=5) have the highest mean (38.60), followed by those residing for 5-10 years (N=31) with a mean of 32.80, and those living less than 5 years (N=64) with a mean of 27.76. The F-value is 9.205, and the p-value is 0.001, indicating a significant difference based on duration of residence. Here the null hypothesis is failed to accept

For hope scale based on **occupation**, sedentary workers (N=23) have the highest mean (32.95), followed by moderate workers (N=48) with a mean of 30.06, heavy workers (N=14) with a mean of 27.00, and unemployed individuals (N=15) with a mean of 27.20. The F-value is 2.627, and the p-value is 0.055, which is just above the threshold for significance, suggesting a marginal difference between occupation groups.

For hope scale based on **age**, participants aged 75 and above (N=7) have the highest mean (39.71), followed by the 35-55 age group (N=56) with a mean of 29.14, and the 56-74 age group (N=37) with a mean of 29.10. The F-value is 6.921, and the p-value is 0.002, indicating a significant difference in means across age groups. Here the null hypothesis is failed to accept.

Table 6: Pearson Correlational Analysis for Mental health and Hope scale among ESRD patients

Variables	Hope
Mental health	**.848****

** Correlation is significant at 0.01 levels

The table suggests a significant positive relationship between **hope** and **mental health**, as indicated by the correlation coefficient of **0.848**, which is highly significant (**$p < 0.01$**). This implies that higher levels of hope are strongly associated with better mental health outcomes. The positive correlation suggests that as individuals' levels of hope increase, their mental health tends to improve as well. Here the null hypothesis is failed to accept.

16. CONCLUSION

The present study has identified the level of mental well-being, hope and quality of life among ESRD patients undergoing haemodialysis,, and the study concluded that there is a positive relationship between mental well-being, hope and quality of life among ESRD patients undergoing haemodialysis.

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