

# Impact of Insurance Scheme on Quality of Life of Haemodialysis Patient by WHOQOL-BREF Criteria

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## ABSTRACT

**Objective:** To study the impact on quality of life (QOL) on haemodialysis patients of low socio-economic class before and after government aided Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY)/Mahatma Jyotiba Phule Jeevandayee Arogya Yojana (MJPJAY) insurance scheme.

**Study Design:** Prospective Study.

**Materials and Methods:** A total of 26 patients with chronic kidney disease enrolled with their consent in RGJAY/MJPJAY. Their quality of life was assessed on subsequent dialysis in one year pre and post RGJAY/MJPJAY insurance scheme.

**Results:** Association between Pre and post dialysis in RGJAY/MJPJAY has better outcome with standard deviation of 6.74 and 12.29 respectively with p value of <0.001.

**Conclusion:** Maximum benefit of the Government sponsored insurance scheme for free Haemodialysis in RGJAY insurance scheme was observed in physical, social, Environmental and psychological health.

**Keywords:** RGJAY-Rajiv Gandhi Jeevandayee Arogya Yojana/MJPJAY-Mahatma Jyotiba Phule Jeevandayee Arogya Yojana, QOL-Quality of Life, CKD-Chronic Kidney Disease, WHOQOL-BREF Criteria, ESRD-End Stage Renal Disease.

## INTRODUCTION

Incidence of chronic kidney disease patients going to end stage Renal Disease and requiring haemodialysis for sustaining of life is increasing. <sup>(1)</sup> India with highest incidence of Diabetes and hypertension in the world is likely to face a catastrophic CKD/ESRD burden, with 25 to 40 % of population at risk. Sufferers of ESRD require ongoing dialysis or kidney transplantation to survive, however in many low and middle income countries treatment options are strictly limited or unaffordable. <sup>(2-4)</sup> Government of Maharashtra launched Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY/MJPJAY) in year 2013 to improve access to below Poverty line (BPL) and Above Poverty line (APL) people to quality medical care for specialty services requiring

hospitalization through identified Network Health care provider. The scheme entitles 971 surgeries / therapies / procedures along with 121 follow up packages in 30 identified categories free of charge and maintenance haemodialysis for CRF - Dialysis and supportive therapy minimum of 8 dialysis & monthly dialysis panel investigation (code M8 T 2.6) is one of it. <sup>(5)</sup> Considering this scenario the study was undertaken to know the impact on Quality of life of haemodialysis patients in pre & post RGJAY/MJPJAY insurance scheme of low socioeconomic class before and after Government aided insurance scheme for dialysis in and around Kolhapur, Maharashtra India.

## MATERIALS AND METHODS

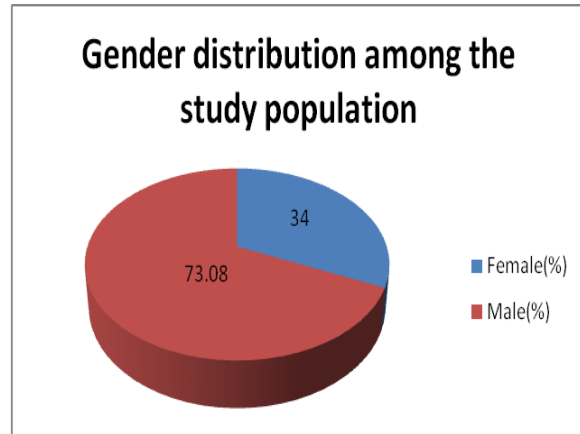
This study included 26 patients with CKD enrolled in RGJAY/MJPJAY. Informed consent was taken. Data was collected in proforma designed by WHO QOL-BREF criteria. (6) WHO QOL-BREF questionnaire is validated in many regional languages and was easy for patients. Inclusion criteria were those who enrolled in RGJAY/MJPJAY insurance scheme for one year. Exclusion criteria were patient who refused to enroll in RGJAY/MJPJAY and patient who could not complete dialysis for one year on pre and post RGJAY/MJPJAY insurance scheme. Data collection was done by interview technique. Predesigned, pre-tested, semi-structured questionnaire was used for interview purpose. Quality of life scale questionnaire composed of 26 items which measures four domains-Physical, Psychological, Social, Environmental domain. Actual Raw score is values achieved by the summation of WHO-QOL-BREF. Lowest possible raw score is lowest possible value that could occur through summation. Possible raw score range is the difference between maximum possible raw score and lowest possible raw score. (20-16=4). The raw score obtained was converted to transformed score by predesigned table approved by WHO QOL BREF criteria. (6) Data was analysed using Statistical Package for Social Sciences (SPSS).

**RESULTS**

The study findings were discussed taking into consideration the materials, study design, and results from the other relevant studies. Conclusions were drawn based on the study, and recommendations were made using the results of the present study. Out of 26 total patient enrolled in study 19(73.08%) were male and 7(26.92%) were female (table No-1). These 26 patient where grouped in different age group like 25-40,40-55,55-70 age groups(table No-2).

**Table No 1: Gender distribution among the study population**

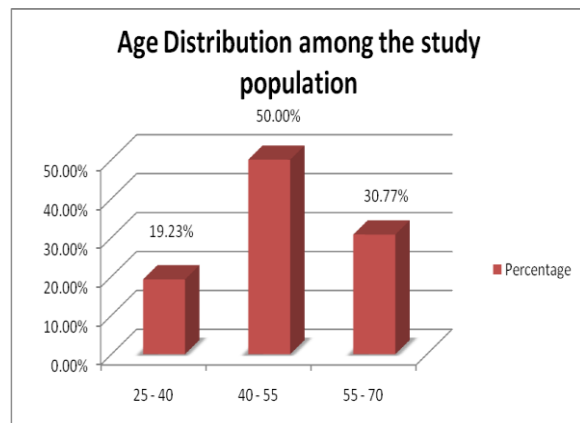
Gender	No. of Patients
Female	7
Male	19
Total	26



**Graph No 1: Gender distribution among the study population.**

**Table 2: Age distribution among the study population**

Age	No. of Patients
25 - 40	5
40 - 55	13
55 - 70	8
Total	26

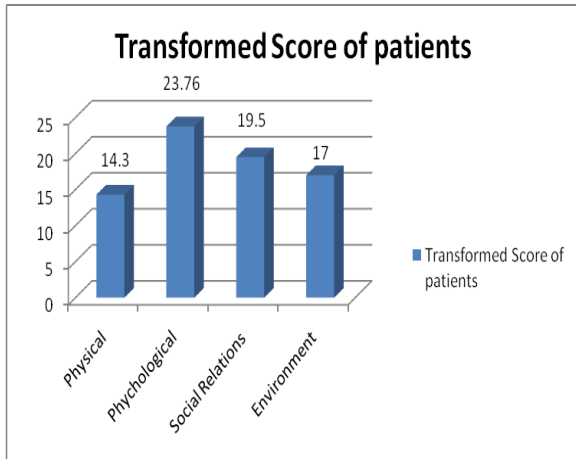


**Graph no-2 Age Distribution among the study population**

Graph No 2 shows the age distribution, it is seen that majority 50% were in the 40 to 55 years age group, followed by 30.77% were in 55 to 70 years and only 19.23% were having age in 25 to 40 year. Minimum age was 25 years whereas maximum age was 68 years. Mean being 49.65 years. SD=11.16 years.

**Table 3: WHO QOL BREF Scores before putting the HD Patients in RGJAY/MJPJAY Insurance Scheme**

Domains	Transformed Score of patients
1. Physical	14.3
2. Psychological	23.76
3. Social Relations	19.5
4. Environment	17



Graph No-3 WHOQOL-BREF Score On Hemodialysis without RGJAY/MJPJAY Insurance Scheme

Graph No 3 shows WHO QOL BREF Scores before putting the Hemodialysis Patients on RGJAY/MJPJAY Insurance Scheme, it was seen that psychological score was maximum 23.76, followed by social relations 19.5, followed by environmental 17 and physical was only 14.3.

Table 4: WHO BREF Scores After RGJAY/MJPJAY Insurance Schemes

Domain	Transformed score
1. Physical	75.7
2. Psychological	78.3
3. Social Relations	74.23
4. Environmental	86.8

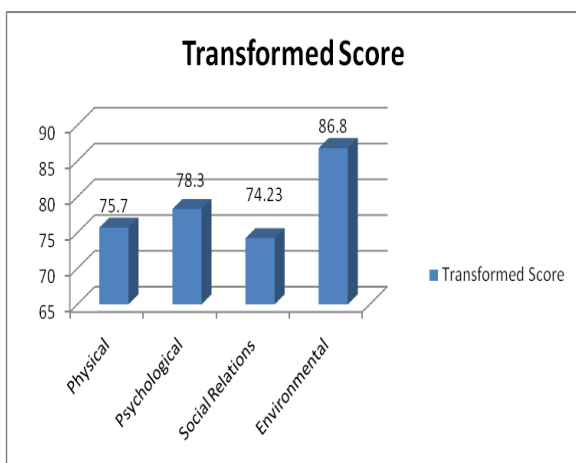
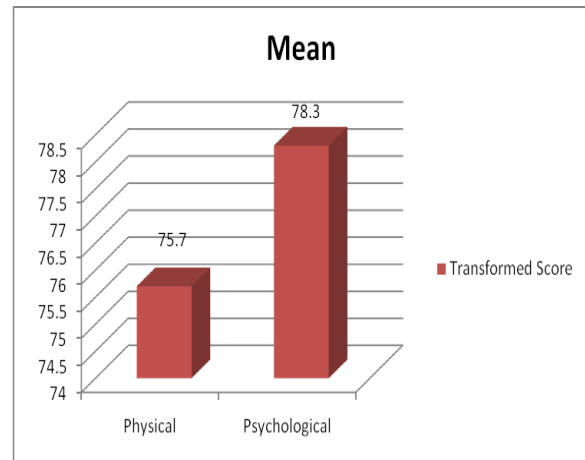


Figure 4: WHO BREF Scores After RGJAY/MJPJAY Insurance Schemes

Graph No 4 WHO QOL BREF Scores After RGJAY/MJPJAY Insurance Schemes, were it was seen that environmental score was maximum 86.8, followed by psychological 78.3, followed by physical 75.7 and social relations was only 74.23.

Table No 5: Association between domain I score in Pre and Post RGJAY/MJPJAY scheme introduction

RGJAY One	Mean
Pre	14.35
Post	75.73



Graph No 5: Association between domain I score in Pre and Post RGJAY/MJPJAY scheme introduction

Graph No 5 shows the association between domain I score in Pre and Post RGJAY/MJPJAY scheme introduction, were it was seen that the mean of pre was 14.35 and post increased to 75.73.

P value calculated by paired 't' test was <math><0.001</math>. This shows high significance.

Table 6: Association between domain II (psychological) score in Pre and Post RGJAY/MJPJAY scheme introduction

RGJAY Two	Mean
Pre	23.77
Post	78.38

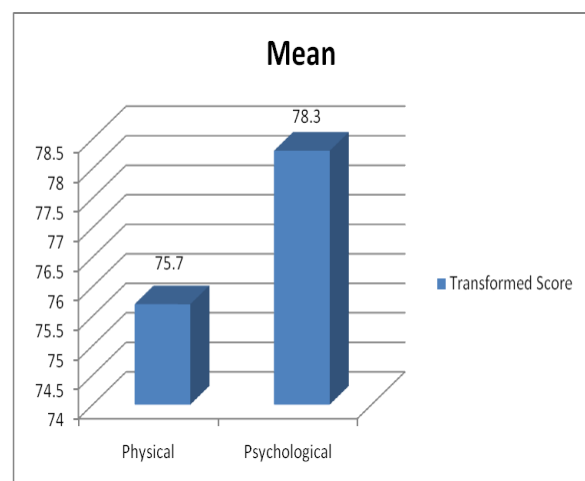


Figure 6: Association between domain II score in Pre and Post RGJAY scheme introduction

Graph No 6 shows the association between domain II (psychological) score in Pre and Post RGJAY/MJPJAY scheme introduction, were it was seen that the mean

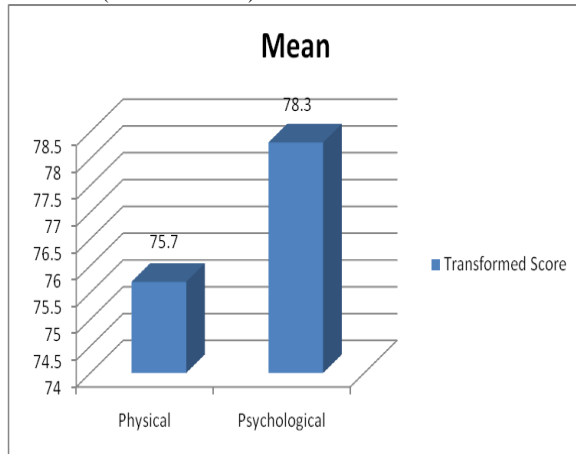
of pre was 23.77 and post increased to 78.38.

P value calculated by paired 't' test were  $<0.001$ . This shows high significance.

**Table 7: Association between domain III score in Pre and Post RGJAY/MJPJAY scheme introduction**

RGJAY Three	Mean
Pre	19.54
Post	74.23

Domain III(Social Relations)



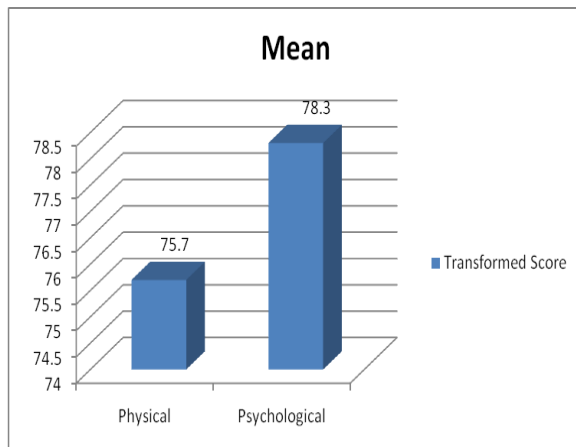
**Figure 7: Association between domain III(social Relations) score in Pre and Post RGJAY/MJPJAY scheme introduction**

Graph No 7 shows the association between domain III score in Pre and Post RGJAY/MJPJAY scheme introduction, were it was seen that the mean of pre was 19.54 and post increased to 74.23.

P value calculated by paired 't' test were  $<0.001$ . This shows high significance.

**Table 8: Association between domain IV (environmental) score in Pre and Post RGJAY/MJPJAY scheme introduction**

RGJAY Four	Mean
Pre	17.00
Post	86.81



**Figure 8: Association between domain III score in Pre and Post RGJAY/MJPJAY scheme introduction.**

Graph No 8 shows the association between domain III score in Pre and Post RGJAY/MJPJAY scheme introduction, were it was seen that the mean of pre was 17.00 and post increased to 86.81.

P value calculated by paired 't' test were  $<0.001$  which is significant.

## DISCUSSION

QOL Scores are usually significantly low in haemodialysis patients as conveyed compared to healthy adult. Sathvic B.S. et al (7) observed that ESRD patients did not have enough money or financial security resulting in low scores of QOL. However the scores for environmental domain were not significantly lower. Carmichael P et al (8) with KDQOL – SF also noted that satisfactory sleep, dialysis related symptom, effect of kidney disease on life style and burden of kidney disease were most important determinant for HRQOL(Health Related Quality of life). Yang F et al (9) assessed HRQL from multi-ethnic Singapore population and did not find the role of dialysis modality on HRQL. It must be noted that only health related QOL was ascertained but no financial implication were studied.

Observed factors associated with poor outcome include female gender, smoking and not working. It was also demonstrated that HD patients were having better mental HRQL than general population. Further it was noticed that public-private HD program patients seemed to perceive better than Govt. funded hospital. Mittal et al. (10) Assessed quality of life is markedly diminished compared to general population and other chronic diseases. The WHO QOL –BREF assessment in this study by providing free HD to the economically poor patients shows improvement in all the four domains. Patients included in the study were on Haemodialysis for more than one year therefore benefits were not so much in social.

## CONCLUSION

Maximum benefit of the Government sponsored insurance scheme for free Hemodialysis (RGJAY/MJPJAY) was observed in physical health (Domain I), Environmental (Domain II) and psychological health (Domain IV). Domain III (social relations) the improvement is not like other domains as due to long standing basic causative disease.

The WHO QOL-BREF assessment in this study proves tremendous positive impact on patients undergoing haemodialysis by providing free HD by Government funded health insurance scheme (RGJAY/MJPJAY) to the economically poor patients in all the four domains.

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