



Original Research Article

TO ASSESS THE AWARENESS AND PERCEPTION OF HEALTH CARE PROVIDERS INVOLVED IN PRADHAN MANTRI NATIONAL DIALYSIS PROGRAM (PMNDP)

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ABSTRACT

Background: End Stage Renal Disease (ESRD) is a result of several NCDs. According to Global Burden of Disease study, chronic kidney disease was the 9th leading cause of death in India. Government of India launched National Dialysis Program (PMNDP) in 2016. This study is being carried out in cooperation with health care providers and their patients. **Objective:** To assess awareness and perception of health care providers involved in PMNDP.

Materials and Methods: A cross-sectional study, for one-year in Indore and Ujjain division. Sources of data collection were health care providers. Predesigned questionnaire to assess the awareness and perception of health care providers serving the facilities of PMNDP.

Results: Responses were collected from all health care providers who serving the dialysis at district hospitals. As per health care providers (78.6%) faced patient load in dialysis centre like 1-10/day and rest (21.4%) faced like 10-20/day. Majority of the health care providers (92.8%) faced patient load in dialysis centre and some of them (7.2%) faced malfunctioning of dialysis machine as per the health care providers. Staff was available in every district of dialysis centre. Majority of the health care providers (67.8%) strongly agreed, and (32.2%) agreed that reducing salt, oil, spice intake with increasing protein and fibre food in diet with regular exercise and maintain personal hygiene benefitted the patient's undergoing dialysis.

Conclusions: This study demonstrates the impact of Health care providers awareness and perception towards the patients in the under-utilization of PMNDP as a dialysis modality. These findings demonstrate a need for increased health care providers education, awareness towards the beneficiary's undergoing dialysis.

Keywords: Haemodialysis, awareness, perception of health care providers.

INTRODUCTION

End Stage Renal Disease (ESRD) is a result of several NCDs. According to Global Burden of Disease study, chronic kidney disease was the 9th leading cause of death in India.^[1] In India, about 2.2 Lakh new patients of End Stage Renal Disease

(ESRD) get added each year which results in additional demand for 3.4 Crore dialysis sessions every year.^[2] The burden of Non communicable disease (NCD), including cancers, chronic respiratory disease, diabetes, hypertension, chronic kidney diseases has been alarmingly increasing and was flagged in the special convention for Health.^[3]

The major constraints in receiving appropriate treatment includes high cost in private sectors, Centres located in Metro cities & Medical colleges. Most families have to undertake frequent trips, and often cover long distances to access dialysis services incurring heavy travel costs and loss of wages for the patient and family members accompanying the patient. This leads to financial catastrophe for families, therefore, both in terms of provision of this important lifesaving procedure and for reducing impoverishment on account of out-of-pocket expenditure for patients, a Dialysis program is required.^[4] To resolve the issues of ESRD patients like financial constraints, low service accessibility and prolonged dependency for survival on Dialysis, Ministry of Health & Family Welfare (MoHFW), Government of India launched National Dialysis Program (PMNDP) in 2016.^[5] This study is being carried out in cooperation with physicians and their patients. The purpose is to assess the awareness and perception of health care providers with serving of dialysis service to patients with kidney disease.

Aims and Objectives

To assess awareness and perception of health care providers involved in PMNDP.

MATERIAL AND METHODS

This was a cross-sectional study conducted in the identified hospitals involved in Pradhan Mantri Dialysis Program to assess the awareness, perception of health care providers for a period of one-year (13th December 2020 -12th December 2021) in areas, Indore & Jhabua district of Indore division and Agar & Ratlam of Ujjain division. Sample size

All health care providers from each district of Indore, Jhabua, Agar, Ratlam involved in serving PMNDP services will be included in the study.

Sampling method

- Sequential sampling method on the basis of more dialysis session and less dialysis session according to the data report of 18-19 of MP govt. of dialysis services in Indore and Ujjain division.
- In each division 1 district of highest case load of dialysis patients and 1 district of lowest case load of dialysis patients have been included based on the previous 3 years of data. ⁽⁶⁾
- For their awareness and perception regarding PMNDP assessment- All the health care providers including Doctors, Staff nurses, dialysis technician of dialysis unit was included in the study.
- For health care providers - who give consent and serving dialysis regularly in the selected district hospital was included in study.

Ethical Consideration: The study protocol was reviewed and approved by the Institutional Ethics Committee at MGM Medical College; Indore. Ethics approval no. EC|MGM|Jan-21|18

Inclusion Criteria: Health care providers serving dialysis who give consent.

Exclusion Criteria: Health care provider who do not give consent.

Study tools

Pre-designed questionnaire to assess the awareness, perception of health care providers serving the dialysis services under the PMNDP.

Study Method: Interpersonal interview of health care providers and where interpersonal interview not possible, the telephonic interview is taken and google form link was send to health care providers direct.

S.no.	Study population	Indore	Jhabua	Agar	Ratlam	Total
1	Health care providers	10	5	5	8	28

2	Health care provider	Indore	Jhabua	Agar	Ratlam	Total
	Doctor	1	1	1	1	4
	Staff nurse	3	1	1	2	7
	Technician	4	2	2	3	11
	Housekeeper	2	1	1	2	6
	Total	10	5	5	8	28

RESULTS

In Indore, Jhabua, Agar, Ratlam district available working staff were 10, 05, 05, and 08 respectively. [Table 1]

As per health care providers (78.6%) faced patient load in dialysis centre like 1-10/day and rest (21.4%) faced like 10-20/day. [Table 2]

Majority of the health care providers (92.8%) faced patient load in dialysis centre and some of them (7.2%) faced malfunctioning of dialysis machine as per the health care providers. Staffs were available in every district of dialysis centre. [Table 3]

In Indore and Ratlam district the health care providers opined that the dialysis machine was functional always but in Jhabua and Agar districts, the dialysis machine was not functional and underwent repair. [Table 4]

Likert's scale is applied in the table had various range from strongly disagree to strongly agree, if anything parameter is zero, not mentioned in the table.

Majority of the health care providers (67.8%) strongly agreed, and (32.2%) agreed that reducing salt, oil, spice intake with increasing protein and fibre food in diet with regular exercise and maintain personal hygiene benefitted the patient's undergoing

dialysis. Everyone disagreed on the fact that smoking and tobacco chewing was not good for health.

1. Emergencies service is provided in all district dialysis centre and all cadre of health care providers involved in PMNDP had undergone on training programme, except the housekeepers in all the district dialysis centres.
2. All health care providers were of the opinion that if the dialysis machine was non-functional, it used to get repaired within 1 month.
3. Disinfection of the dialysis machine was done by 5% sodium hypochlorite thrice a week as per the protocol in all the centres.

4. Lab investigations to look for various renal parameters like (urea, creatinine, albumin, calcium, phosphate, blood culture) was being done once a month for all patients in all the dialysis centres.
5. All health care providers addressed the problems of patients by appropriate counselling and follow up of the patients was done by all the health care providers except by housekeepers in all the centres at least three times a month and varied with regards to other health conditions.

Awareness and perception of health care providers involved in PMNDP

Table 1: District wise working staff in dialysis centre

S.NO.	WORKING STAFF	INDORE N (%)	JHABUA N (%)	AGAR N (%)	RATLAM N (%)	TOTAL N (%)
1.	Doctors	01 (10.0)	01 (20.0)	01 (20.0)	01 (12.5)	04 (14.2)
2.	Staff Nurses	03 (30.0)	01 (20.0)	01 (20.0)	02 (25.0)	07 (25.0)
3.	Technicians	04 (40.0)	02 (40.0)	02 (40.0)	03 (37.5)	11 (39.3)
4.	Housekeepers	02 (20.0)	01 (20.0)	01 (20.0)	02 (25.0)	06 (21.5)
	TOTAL	10(100.0)	05 (100.0)	05(100.0)	08 (100.0)	28(100.0)

(#) Percentages has been calculated with respect to column Total

Table 2: District wise Patients load in Dialysis centre as per health care providers

S.NO.	Patients load in the dialysis centre	INDORE N (%)	JHABUA N (%)	AGAR N (%)	RATLAM N (%)	TOTAL N (%)
1.	1-10/day	00 (0.0)	05 (100.0)	05(100.0)	00 (0.0)	10 (78.6)
2.	10-20/day	10(100.0)	00 (0.0)	00 (0.0)	08 (100.0)	18 (21.4)
	TOTAL	10(100.0)	05 (100.0)	05(100.0)	08 (100.0)	28(100.0)

(#) Percentages has been calculated with respect to column Total.

Table 3: Problem faced in running the programme of PMNDP among health care provider

S.NO.	Problems faced in the programme	INDORE N (%)	JHABUA N (%)	AGAR N (%)	RATLAM N (%)	TOTAL N (%)
1.	Patients load	10 (100.0)	04 (80.0)	04 (80.0)	08 (100.0)	26 (92.8)
2.	Malfunctioned Dialysis machine	00 (00.0)	01 (20.0)	01 (20.0)	00 (00.0)	02 (7.2)
3.	Non availability of Staff	00 (00.0)	00 (00.0)	00 (00.0)	00 (00.0)	00 (00.0)
	TOTAL	10(100.0)	05(100.0)	05(100.0)	08 (100.0)	28(100.0)

(#) Percentages have been calculated with respect to column Total.

Table 4: Opinion regarding the functioning of dialysis machines in all the dialysis centres as per health care providers

S.NO.	Functioning of dialysis machines	INDORE N (%)	JHABUA N (%)	AGAR N (%)	RATLAM N (%)	TOTAL N (%)
1.	Yes	10(100.0)	00 (00.0)	00 (00.0)	08 (100.0)	18 (78.6)
2.	No	00 (00.0)	05 (100.0)	05(100.0)	00 (00.0)	10 (21.4)
	TOTAL	10(100.0)	05 (100.0)	05(100.0)	08 (100.0)	28(100.0)

(#) Percentages has been calculated with respect to column Total.

Table 5: Perception of health care providers regarding the importance of various modification of lifestyle practices for CKD patient

S. No	Modifications of lifestyle practices	Agree N (%)	Strongly Agree N (%)	Total N (%)
1.	Reducing salt intake for people undergoing dialysis process is beneficial	09 (32.2)	19 (67.8)	28 (100)
2.	Reducing oil and spice intake for people undergoing dialysis process is beneficial	09 (32.2)	19 (67.8)	28 (100)
3.	Increasing protein quality food in diet for people undergoing dialysis process is beneficial	09 (32.2)	19 (67.8)	28 (100)
4.	Increasing fibre food in diet for people undergoing dialysis process is beneficial	09 (32.2)	19 (67.8)	28 (100)
5.	Regular exercise is beneficial for health of people undergoing dialysis process	09 (32.2)	19 (67.8)	28 (100)

6.	It is important to maintain personal hygiene and general cleanliness for the health of people undergoing dialysis process	09 (32.2)	19 (67.8)	28 (100)
	Total	54 (32.2)	114 (67.8)	168(100)

(#) Percentages has been calculated with respect to row Total.

DISCUSSION

Facility survey of the identified hospitals involved in PMNDP

Facility survey of the identified hospitals involved in PMNDP was done on the basis of infrastructure and availability of human resources, equipment's, drugs, and different renal parameters in the dialysis centres.

In our study we found that all facilities were available in the dialysis centres as per guideline of PMNDP, as infrastructure like dialysis service area, education area, training area, treatment room, consultation room and waiting area, the area of dialysis room adequate to the dialysis population, operation theatre for catheter insertion (or removal) and making dialysis fistula, working of all dialysis machine were available.

In our study we found that facilities human resources were available in the dialysis centres as per guideline of PMNDP, like Nephrologist/Physician, Nurses/ANM/clinical coordinator, provision of one trained nurse for 20 patients, space to manage acutely ill patient, trained nephrologist/surgeon for catheter placement, pharmacists/storekeeper to maintain/disburse supplies and medicines, support staff to keep the centre clean, maintain equipment's was available in all selected districts.

In our study we found that facilities availability of all drugs like Anti-hypertensives, loop diuretics, antidiabetic agents including insulin, phosphate binders: calcium carbonate, calcium acetate, erythropoietin, aspirin, antibiotics, vitamin d analogues: cholecalciferol, calcitriol was available in the selected district dialysis centres as per guideline of PMNDP.

In our study we found that facilities availability of all diagnostics services like blood counts, routine biochemistry – blood urea, serum creatinine, albumin, calcium, phosphate, microscopy for counting cells in dialysis fluid, fluid and blood culture facility, chest x-ray was available in the selected district dialysis centres as per guideline of PMNDP. In another study of Joyita Bharati and Vivekanand Jha et al in 2020,^[7] Dialysis is growing rapidly in India, but there is room to improve access and quality of service. With commitment from the union and state governments and entry of new service providers, scaling up of service delivery seems a realistic goal. Although HD is the dominant modality currently, wider adoption of PD might allow for more rapid and equitable expansion, including to remote rural areas. Training of a cadre of professionals that provide all-round care and address common issues related to dialysis delivery,

including expertise in vascular access care, is a priority.

Problem faced in running the programme

In our study, majority of the health care providers (92.8%) experienced a high patient load at the dialysis facilities, and some of them (7.2%) experienced malfunctioning dialysis equipment's. 100% staff availability was observed in all the dialysis centres. In another study of Jones and Goldman et al in 2015,^[8] had suggested a useful algorithm to approach the difficult dialysis patient in which a problematic behaviour is identified, to objectively identify the issue at hand, and investigated in an unbiased manner while considering psychological, metabolic, and environmental stressors

Services in Dialysis centre

In our study,

- Majority of health care providers (78.6%) experienced patient load of 1 to 10 per day, whereas 21.4% experienced patient load of 10 to 20 per day.
- All district dialysis centers offered emergency services, and all healthcare professionals, with the exception of housekeepers, received training for this dialysis process as per the PMNDP.
- Majority of healthcare providers (78.6%) agreed that the dialysis machine in the dialysis centre was functional, although 21.4% reported having problems with it and if a dialysis machine was not working, it was repaired within a month and got disinfected with 5% sodium hypochlorite three times a week as recommended in every centre.
- All medical professionals counselled patients properly to handle their difficulties and used to check for complications of patients in every center using the proper clinical and lab investigations like the various renal parameters once a month depending on their various health conditions. As per Hardavella G, Aamli-Gaagnat et al 2017,^[9] interactions between patients and medical practitioners can sometimes be challenging. We have all had consultations where the interaction was not optimal, either as medical practitioners or as a patient ourselves.

Attitude and Perception regarding various lifestyle modification practices among health care providers

Among the health care providers (67.8%) strongly agreed and (32.2%) agreed to the fact that reducing salt, oil and spice intake and increasing protein and fibre intake as well as engaging in regular exercise and maintaining personal hygiene will be beneficial for the patients during dialysis. All study participants were aware that smoking and tobacco

chewing were harmful. In another study of Hussain S Lalani et al 2022,^[10] Regardless of specialty, respondents had a high incorrect response rate with regard to contraindications to dialysis. While nephrologists reported high perceived knowledge regarding dialysis, objective assessments revealed knowledge gaps with regard to dialysis beneficiary. Non-nephrologists reported lower perceived knowledge but scored better on objective knowledge assessments regarding medical contraindications to dialysis. Both specialty groups held misconceptions regarding psychosocial barriers to dialysis. In another study of Xu F, Zhuang B, Wang Z et al in 2023^[11] the findings of this study provide important insights into the knowledge, attitudes, and practices of patients with uraemia receiving haemodialysis in Nanjing (China) regarding haemodialysis and its complications. We anticipate that the findings will facilitate the development and implementation of education programs to enhance self-management practices in patients receiving maintenance haemodialysis.

CONCLUSION

The present study was conducted in Indore & Jhabua district of Indore division and Agar & Ratlam of Ujjain division to assess the Implementation and Operationalization of Pradhan Mantri Dialysis Program. Sequential sampling method was done in the study among all health care providers from the dialysis center of the selected districts. In this study assessed the knowledge awareness and perception of the health care providers involved in PMNDP in dialysis centres. study demonstrates the impact of Health care providers awareness and perception towards the patients in the under-utilization of PMNDP as a dialysis modality. These findings demonstrate a need for increased health care providers education, awareness towards the beneficiary's undergoing dialysis. The findings of study will facilitate the development and implementation of education programs to enhance self-management practices in patients receiving haemodialysis.

Recommendations

1. Transport facilities should be started in all the dialysis centres for pick up and drop of the patients who had problems in reaching the dialysis centres.
2. Peritoneal dialysis should be started as early as possible in all the dialysis centres so that patients can receive better psychological care, particularly for those who have emotional problems, in order to achieve better results in therapy and improve their QoL.
3. There should be a provision for hiring a full-time qualified nutritionist in the medical

dialysis department so as to monitor the nutritional status of patients and conduct regular education and nutritional counselling sessions.

4. The study points towards the need for comprehensive management practices, including diet counselling and psychosocial support. While there are comprehensive guidelines on the establishment and management of dialysis services, more policy attention needs to be effective for the implementation of these so as to ensure better accessibility and quality of the existing services.

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