ABSTRACT
Physicians should have adequate training in nephrology and should be able to look after acute dialysis in ICU if they have critical care facilities. Maintenance hemodialysis in smaller cities or extended suburbs of metro could be looked after jointly by a physician and a nephrologist. Although economically a dialysis unit is not directly a profitable venture, indirect revenues do help in making it cost effective. A complete physician with a good medical set up should have dialysis machine as a part of his facility and preferably should do a special course in dialysis medicine so as to be able to handle kidney failure patients effectively.

PHYSICIANS AND DIALYSIS UNIT
There are 3 aspects of this topic which need discussion
a. Should physicians manage dialysis patients?
b. Is it economically profitable?
c. Are we ready to have a diploma in dialysis medicine course?

1. Should physicians manage dialysis patient? –
   In a population of more than 120 crores there are hardly 1000 nephrologists in our country and most of them practicing in metro’s & tier one cities. Thus nephrology services in India are woefully inadequate. With the growth of tier 2 & tier 3 cities & their rising population, health care services have mushroomed with moderate sized hospitals & physician owned nursing homes looking after the bulk of health care in private sector. Acute Kidney Injury (AKI) affects 5-7% of all hospitalized patients¹ and up to 25% of patients admitted to any ICU could have AKI with the overall incidence varying from 1-25% depending on the criteria used for the definition of AKI and the population surveyed.² Also 4-6% of these ICU patients having AKI would need dialysis or Renal Replacement Therapy¹. Further with the increase in life style diseases the incidence³ and the prevalence of CKD is ever increasing with an addition of nearly 2-3 lakhs new end stage renal failure patients needing dialysis every year. Thus both AKI and CKD cases may be first seen by physicians before the Nephrologist arrives on the scene.

   Hence facilities for renal replacement therapy are increasing by leaps & bounds in our country & just about 1000 nephrologists in our country cannot handle this ever increasing load/

FACILITIES FOR RRT (RENAAL REPLACEMENT THERAPY) IN INDIA⁴
- 1000 dialysis centers/ Units.
- 9000 Dialysis machines.
- 54,000 – 60,000 Dialysis patients.
- 1200+ Nephrologists.
- 200 Transplant centers.
Is it cost effective? - The answer is no!

One can charge Rs. 1500-2500 Rs per dialysis sitting & yet not make a big profit but there are a lot of indirect benefits to your ICU. The dialysis unit can improve the prestige of your ICU making it a well equipped full fledged ICU, a modern & complete set up, able to handle critical care & hence the number of ICU cases referred to your centre increases thereby bringing remuneration indirectly. Secondly you have the satisfaction of treating all types of critical cases including those complicated by renal failure and multi organ damage. Thirdly the economics of bed charges, ventilator charges, laboratory tests, procedures visit charges, surgery etc compensate for the capital cost & justify the economics of acute care dialysis.

Chronic dialysis centre for maintenance Hemodialysis.

As discussed 1000 nephrologists in India are woefully inadequate to handle lakhs of ESRD patients in our country. Hence supply can never meet the demand. Thus there is a need for more trained nephrologists, along with the qualified ones, to match the ever increasing need for dialysis units.

Concept of free standing dialysis unit or Satellite Dialysis Centre

These are independent satellite dialysis units with no admission or indoor facilities typical of a hospital. They have around 10 or more dialysis stations, managed by experienced nurses & technicians who are trained in resuscitation. An RMO is in telephonic consultation with Nephrologist for day to day problems. The Nephrologist only visits as and when possible.

A physician can team up with a Nephrologist & look after day to day care of dialysis patients & share the emoluments with Nephrologist.

Is it economically viable to run a dialysis unit for chronic dialysis?

Capital Cost:
1. Premises – variable cost but that asset will appreciate over the years giving you good returns. If taken on rent then cost of premises is Rs. 100-200 per dialysis
2. Dialysis machines Rs. 6.0 lacs per machine
3. R.O. plant Rs. 2.5 lacs
4. AC & Plumbing & carpentry – 5.0 lacs

Running cost of a dialysis unit as shown in the table.

- Consumables 300
- Electricity 50
- Water treatment & Maintenance 50
- Repairs (wear & tear) 50
- Depreciation 100
Physician & Dialysis – Economics Matters

- Honorarium to Nephrologist: 100-200
- Staff Salary: 100-200
- Interest on capital and rent: 100-200

**TOTAL COST OF 1 DIALYSIS: RS. 1000 APPROX./**

Dialysis expense is approximately Rs. 1000 per session & hence not very cost effective unless you have large numbers of patients or you cater to richer clientele who can pay more than Rs. 1500 per session. Finally indirect income from laboratory procedures, surgery admissions & of course income from pharmacy can compensate for the lack of income.

How to prepare a physician to run a dialysis unit.

1. More undergraduate training required in medical colleges
2. Compulsory rotational residency in MD medicine with hands on experience of dialysis during that period
3. More nephrology updates and CME’s in such fora as APICON
4. Nephrology & dialysis workshops arranged by dialysis centers and nephrology units.
5. Starting diploma course in dialysis medicines e.g. IG-NOU course.

**IN CONCLUSION**

Acute Dialysis set up is a must for running a good critical care unit even though it is not profitable. It raises the stature of a physician & his hospital. It could be a life saving service in a smaller town or distant suburbs of a metro. Running a chronic dialysis centre is not profitable and has its own set of problems including medico legal cases. Unless you are interested in the subject and have reasonable hands on experience or a diploma in nephrology and dialysis, it may not be worth it from your perspective. You could of course team up with your Nephrologist and together look after the satellite dialysis units in the large cities or metros but in smaller cities, physician with a diploma in dialysis medicine may be the need of the hour and a practical solution to the social problem of commuting and long distances travel of a CKD patient 3 times a week.

**REFERENCES**