Public-Private Partnership in RRT: Single Centre Experience from Karnataka State CAPD Pilot Project

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Abstract: Developing countries like India face a resource crunch when dealing with healthcare expenses. Renal Replacement Therapy (RRT) invariably suffers as a consequence of this resource crunch. As a result, a large number of patients go with little or zero access to RRT. Additional difficulties faced in a large and diverse country like India include difficult terrain, poor literacy, cultural, social and religious issues. CAPD is thought to be effective in bridging some of these gaps if effectively utilized, as demonstrated by the PD first Policy in Thailand, a country quite similar to India. Cost effective RRT should aim at best possible utilization of existing facilities apart from ease and patient satisfaction with the procedure. To explore whether CAPD could resolve some of the issues facing RRT in India, the Govt of Karnataka State embarked on a CAPD pilot project, notifying 2 centres with 20 patients each and a fixed budget, with a Public –Private Partnership (PPP) model. We present our experiences in Mangalore, one of the centres notified for this project.

Keywords: CAPD, RRT, Dialysis, Public-Private Partnership, Government, Insurance, Rural, Pilot project,

Introduction

CKD is assuming ominous proportions as a global healthcare epidemic, though different studies differ on the exact numbers globally, it is fairly reasonable to say that the numbers are huge and only set to increase exponentially (1,2,3,4). India, a vast and diverse nation of 1.2 billion people also grapples with this epidemic, estimates put the prevalence in the range of 152 per million population (5). It is thought that less than 10% of Indian patients reaching End Stage Renal Disease (ESRD) have any sort of access to advanced renal care and dialysis facilities (6,7). In the wake of such a grim picture, it follows that budgets need to offer best value for every healthcare dollar spent. Currently India spends just 1% of its GDP on healthcare, most of which is spent rightly on preventive care, national programs, family planning and nutrition, staff salaries and maintenance of basic hospital infrastructure. Additionally, in India and Pakistan about 0.7 billion people live on less than US$1/day (9). To the already overstretched facilities, a burden of approximately 250-275,000 new patients requiring RRT facilities are added every year with the burden growing at 10-20% every year (8). Dialysis needs of India's ever increasing ESRD population is largely met by private facilities- Govt hospitals still grapple with chronic staff and fund shortages and often lack even basic

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RRT infrastructure. Conservative cost estimates put the monthly expenses on dialysis (2 HD sessions/week and 3 peritoneal dialysis (PD) exchanges/day) at Rs. 29,852 (USD 609) and 28,763 (USD 585), respectively (10). It is thought that most patients presenting to Govt hospitals in India with ESRD, are eventually forced to discontinue dialysis and eventually die out of inability to afford it. A Indian study estimated that ~100 000 patients develop ESRD each year. Of these, 90% never see a nephrologist. Of the 10 000 patients who do consult a nephrologist, RRT is initiated in 90%; the remaining 10% are unable to afford any form of RRT. Of the 8900 patients who start hemodialysis, 60% are lost to follow-up within 3 months (7,11).

Less than 20% of patients in India are on CAPD. Reasons of poor penetration of PD include perceived higher cost of the therapy and an unfounded fear of infection. In fact, most Indian PD centres have peritonitis rates well within international standards (12). CAPD very rarely is offered as a first-choice due to myriad reasons, and ultimately only patients with multiple comorbidities not suitable for HD, are initiated on CAPD. Nephrologists who own HD centres sometimes tend to exhibit a marked bias against CAPD for financial reasons (12). This results in CAPD ending up a second choice, and with high rates of patient drop out especially within 1st 6 months. However, the experiences from Thailand, which practices a PD first policy, and other developing countries suggests that CAPD should ideally be one of the first choice options for RRT given its ease, simplicity, effectiveness, and other benefits like lack of space requirement (13). The figures for both HD and CAPD suggest that the cash strapped Govt sector will always struggle to prioritise every healthcare dollar when allocating resources to a RRT programme. Hence partnership with the private sector seems the only viable way to make RRT available and affordable for the lowest income bracket of the populations. Measures in this direction are already underway in several parts of the country- HD units with part investment from private sector and based on profit sharing models are operational in some parts of India (6).

Considering these factors, the Govt of Karnataka, a state in Southern India, embarked upon a pilot project to evaluate the efficacy of a PPP model CAPD project in providing cost effective and adequate RRT to its ESRD population. Karnataka has a population of 64 million with a per capita GDP of $ 1400, and an ever growing ESRD population. We present the experiences from the centre in Govt Wenlock Hospital, Mangalore, one of the centres approved in phase 1 of this pilot project, modelled on the lines of the PD first policy of Thailand.

**Particulars and Results**

Govt Wenlock Hospital (GWH) was chosen as one of the centres for the Peritoneal Dialysis Pilot Project along with KC General Hospital, Bangalore. Dr. Umesh Lingaraj, Head of Dept of Nephrology at INU Bangalore was nominated Chief Nodal Officer for the overall project with Dr. Mayoor V Prabhu as Nodal Officer for GWH. This is India’s first pilot project on a Public-Private partnership model, between the Dept of Health Services (DHS), Govt of Karnataka and Baxter India Pvt Ltd, viz GO dated 09/12/2013. Peritoneal Dialysis Fluids (PDF) was provided to the Govt at a lower than market price for this project thus enabling economic viability.

Under the pilot project, Govt Wenlock Hospital, Mangalore was allotted a quota of 20 patients, suffering from ESRD to be initiated on CAPD. Therapy was provided free of cost (including CAPD catheter, fluid bags, mini caps) to these patients for a period of upto 6 months in the initial phase of this project.

Peritoneal Dialysis Care Centre (PDCC) was established in GWH as part of this programme. Adequate space was provided at an excellent location within the hospital by GWH.
Baxter India helped set up the PDCC complete with desktop computer and PD software installation, internet connectivity, data management system, air conditioning and suitable storage area, 3 beds for training purposes, banners and charts for illustration purposes, training videos, patient handout leaflets, and other material suitable for counseling of patients. GWH provided all technical and material support including beds, nursing care, OT space, hemodialysis support where required, anaesthesia and OT care, and ICU care should it be required. Baxter Healthcare nominated Sri Raju N as chief Clinical Coordinator (CC) for the program. His responsibility included initial counseling, interaction with Nephrology and Urology teams, patient training, and data management. Patient selection was done by the Nodal Officer, followed by drawing up of an action plan for catheter placement, break in period management, subsequent readmission for training and evaluation. Catheter implantation was performed with excellent results by the Urology team. Training period was on an average 3-5 days with longer periods depending upon the proficiency of the patient/caregiver in performing the exchanges. Subsequently the patient was discharged after counseling and warning about alarm symptoms, as many of these patients were from extreme rural areas with erratic cellphone connectivity and poor public transport/local medical facilities. In the event of no complications, the patients revisit PDCC every month for a check up, investigations and to collect the stocks. PDF was issued in monthly instalments to enable patient visits, confirm compliance and prevent misuse of PDF.

Chronology of events

**09/12/2013:** Govt order issued to start the PD project at Govt Wenlock Hospital viz GO

**22/01/2014:** CME organized in GWH, Mangalore to create awareness of this programme

**02/03/2014:** Formal inauguration of PDCC, Mangalore at GWH by Sri U.T Khader, Honble Minister for Health and Family Welfare, Govt of Karnataka

**24/04/2014:** 1st CAPD Catheterization done in PDCC Mangalore

**06/06/2014:** 10th initiation completed at GWH, marking completion of 50% of the target

**17/06/2014:** 12th initiation completed

**20/06/2014:** Patient interaction meeting in PDCC, Mangalore by Hon’ble Minister for Health And Family Welfare, Govt of Karnataka Sri UT Khader.

**18/12/2014:** 20TH initiation completed

Progress report till date

No. of CAPD catheterizations : 20
Break in and training completed : 20
Follow up visit after 1 month completion : 20
Surgical Complications : 2 (reimplantations)
Mechanical complications : 1 (hydrothorax)
Peritonitis rate : 1 in 33.4 patient months
Technique survival (16 months) : 50%
Death : 7
Lost to follow up : 2
Transfer to HD : 2

Demographic characteristics of patients initiated so far

Total initiations : 20
Male : 14, Female : 6
Mean age : 46
Diagnosis : Diabetic Nephropathy 9
CIN/CGN 10
Unknown 1
Location : Dakshina Kannada : 9
Belgaum : 1
Kodagu : 3
Chikmagalur : 2
Davanagere : 1
Shimoga : 2
Hassan : 1
Udupi : 1
Socio Economic: BPL card holders: 14
APL card holders: 6

Education: Graduate 3
Post graduate: 1
Undergraduate: 2
Illiterate: 14

Referral: Walk in/In hospital referral: 13
Referred from other hospitals: 7

Challenges and future directions

The pilot project phase was successfully completed with the initiation, break in and training of the patients. The results were successful in most aspects though initial teething problems and drawbacks were definitely present. The project was very well encouraged and supported by the Honble Health Minister of Karnataka State who took keen personal interest in the progress of the project. The DMO of GWH constantly monitored the project and encouraged it. On the positive note the project attracted several patients from outside the home district of GWH- in fact 50% of the patients were from outside Mangalore. 60% were Below Poverty Line (BPL) card holders- which means their income was less than 1$ a day. Thus the project did reach the intended target population.

Peritonitis is the bug bear of most PD programmes. While we managed to achieve internationally acceptable standards in overall peritonitis rates, a point of concern was the delay in reporting symptoms and thus initiation of therapy in a few patients who did suffer from peritonitis. This was due to the extreme rural residence of these patients and inability to contact PDCC on time. We tried to prevent this by aggressive training and retraining, and also plan to henceforth issue a course of antibiotics to each patient at discharge, with advice to start IP antibiotics immediately on suspicion of peritonitis, even before coming to PDCC. Inspite of lower overall incidence of peritonitis the few episodes tended to be severe, and resulted in loss of catheter in 2 cases.

Overall, CAPD was well handled and tolerated by a patient population previously thought to be unsuitable for CAPD- extreme poor and rural based patients. Educational status also didn’t seem to influence outcomes- nearly 50% of our patients were illiterate. We now hope the project gets and extension, a representation has been made from PDCC to the Govt to enhance the quota to 50 new patients. Also, a representation was made to provide a lifelong guarantee of PDF to existing batch of patients, which was positively considered. Hopefully, this project will serve as a template for many more such projects in India in the future, and put CAPD firmly on the radar of policy makers covering renal care.

References


