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Pediatric Nephrology in Nepal

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Nepal is an underdeveloped landlocked nation located between China and India. The geography is itself a great challenge to deliver health facilities to people as most of the area, about 80%, is covered by hills and mountains. The estimated population of the country is 26.4 million and about 35% of the population is below 14 years of age. The pediatric subspecialties including nephrology is in its early phase of development and it has a long way to go.

At present there are five pediatricians who have obtained one year of pediatric nephrology fellowship (of which 2 are IPNA, 1 is ISN fellow) and are providing pediatric nephrology care. Among them, four work in the capital Kathmandu and one works in Dharan, a town in eastern Nepal. They practice both pediatrics and pediatric nephrology. None of the health institutes or hospitals has a dedicated pediatric nephrology unit. Similarly, pediatric renal biopsy service is available in only few centers. Because of lack of nephropathologists, the samples are sent to India for immunofluorescence and electron microscopy from peripheral centers. Immunosuppressive medicines like rituximab are rarely available and far beyond affordability of the common people; similarly there is scarcity of pediatric hemodialysis tubing, dialyzers, and both HD and PD catheters. Because of the lack of equipment, it is often difficult to provide

renal replacement therapy or plasmapheresis to children in need. Additionally, pediatric HD services and chronic PD services are provided by limited centers across the country. At present, pediatric transplant services are not available in the country. In addition, nuclear imaging is available only at a single center, and fluoroscopy guided MCUG is performed by a very limited number of centers.

The exact data on the national prevalence of different renal problems in pediatric group is not available due to lack of a registry system. However, hospital level occurrences can be derived from studies conducted at specific sites. The annual hospital admission rate due to renal conditions accounts for 6-8% of all admissions (Bhatta NK 2008, Yadav SP 2016). The table below provides the breakdown of different renal problems encountered at a single center (Bhatta NK, 2008).

Renal disease	**Percentage**	**Renal disease**	**Percentage**
Glomerulonephritis(GN)	**46.5**	**Congenital Problems**	**7.8**
Acute post infectious GN	28.7	Posterior urethral valves	3.4
Hemolytic Uremic Syndrome(HUS)	10.1	Vesicouretral reflux	2.3
Henoch-Schonlein nephritis	4	Wilms tumor	0.6
Lupus Nephritis	3.7	Prune belly syndrome	0.9
		Polycystic kidney disease	0.6
Nephrotic syndrome	**34.1**	**Chronic renal failure (CRF)**	**4.2**
Minimal change	32	**AKI -III**	**3.5**
Mesangioproliferative	1.2	**UTI**	**3.5**
Membrano proliferative	0.3		
Focal segmental glomerulosclerosis	0.6		

With the improvement of expertise and diagnostic facilities, the number of reported patients with AKI has increased. From unpublished hospital-based data, it was found that AKI occurs in about 7% of the total pediatric admissions, but 30% of Pediatric ICU admissions. Similarly, the number of CKD cases seeking medical attention has increased. This heralded the need of adequate renal replacement therapy (RRT) throughout the country. Unfortunately, access to

dialysis services remains inadequate, as only a very few centers provide pediatric dialysis services in the country.

Many families are unaware about the renal problems, and seek late consultation in the healthcare system. Very few families can afford to continue long-term therapy. There are very few training opportunities or workshops conducted at the national level focusing on pediatric renal health. As a result, there is a dearth of skilled clinicians to work in this field. Although government has committed to provide free dialysis services for end stage renal disease patients, and some assistance in renal transplant, there are two hindering factors. Firstly, the lack of access to pediatric renal services, and the lack of experience in pediatric renal transplant. In addition, the legislation for cadaveric renal transplant still needs to be drafted.

Good quality research is also lagging in this field; most of the published articles are retrospective or prospective observational studies. Similarly, the need for a national registry of pediatric renal diseases is limited by the human resources and skillsets required to maintain the registry. This is not just an issue for pediatric nephrology, but also supporting departments. There is a need to provide quality clinical services and to conduct impactful research.

To conclude, pediatric nephrology in Nepal is currently in its infancy. More clinicians and para-medics should be trained to improve the level of service throughout the country. Similarly, both the government and international bodies should work together, identify the needs, create educational programs for both clinicians and patients, and uplift the status pediatric nephrology in Nepal. Similarly, collaboration with developed centers and organizations working for kidney health of children is needed to support the development of pediatric nephrology in Nepal. . Although current levels of service lag behind developed nations, there are windows of opportunity to improve the care of children in Nepal.

Reference:

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