

Dr. Gowri Raj

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Professional summary

Trained in Neurology for 3 years and in Paediatrics for 4 years in India; passionate to pursue a career in Paediatric neurology with keen interest in academic activities and research.

Education and Experience

DM Neurology at Amrita Institute of Medical Sciences, Cochin, India: Aug 2018 to September 2021. It is a 1100+ bed (490 units) tertiary referral and teaching hospital. The residency programme was at Centre for Neurosciences at AIMS, with 9 faculty members and 3 subspecialty senior residents. The dept. is one of the largest in Southern India with more than 21,000 patients in out-patient services and 1500 patients as in-patient per year. First two semesters involved clinical exposure to general neurology as well as various subspecialties. Third semester involved clinical electrophysiology training including EEG, NCV and EMG, autonomic function tests, sleep studies, SSEP and intraoperative monitoring, Presurgical evaluation of epilepsy and planning of epilepsy surgery and it's follow up. Fourth semester included rotatory postings in neurosurgery, radiology, psychiatry and neuropathology. Final two semesters involved OP management (including Multiple Sclerosis Clinic, memory clinic, Movement Disorders clinic with deep brain stimulation surgery planning), supervision of IP management by junior residents and dedicated postings in paediatric neurology and stroke unit. Stroke unit had facilities for intravenous thrombolysis, mechanical thrombectomy and stenting, DSA as well as comprehensive stroke management. There are several imaging modalities including functional studies – includes PET (Positron emission tomography), SPECT (Single-photon emission computed tomography) & fMRI (Functional magnetic resonance imaging). There is an active learning disability program for children involving psychologists, neurologists and developmental specialists.

MD Paediatrics at MOSC medical college, Kolenchery, India 2016 – 2018. Malankara Orthodox Syrian Church Medical Mission Hospital, Kolenchery, is a 1100 bedded super specialty hospital with reputed Medical College attached to it. There is general paediatrics unit, Level 3 Neonatal Care (with facility for high frequency ventilation, headed by Dr. Krishnakumar Diwakar), developmental paediatrics (headed by Dr. M. C. Mathew, former Professor of CMC Vellore), paediatric Surgery and division of Paediatric and Adolescent Endocrinology. Department of Paediatrics has undergraduates and post graduate training programmes which include case discussions, seminars, symposium and public awareness programmes. During the period of the residency, I was involved in general paediatric case management, PICU management and neonatal care including NICU. General paediatric posting included outpatient as well as inpatient management and conducting various special clinics like well-baby clinic, adolescent clinic, nutrition clinic, immunisation clinic and developmental paediatric clinics. PICU training included medical management of critically ill children as well as performing related procedures such as lumbar puncture, emergency and elective intubation, intravenous and arterial cannulation, pleural tapping and bone marrow aspiration.

NICU training included management of normal new-borns and sick neonates including extreme preterm. Procedures like intravenous and arterial cannulation of term and preterm babies, umbilical vein and artery cannulation, exchange transfusion, neonatal resuscitation and intubation, lumbar puncture. Management of extreme preterm includes ventilator management, HFNC and non-invasive ventilation. Outpatient management of neonates and follow up of NICU babies in growth and development clinics were done. Regular clinical case discussions, radiology discussions, paediatric surgery collaborative meetings, bedside clinics, journal presentation and mortality meetings were conducted during the training. Teaching undergraduate paediatric students was also part of our training.

A dedicated developmental paediatrics unit is there which brings together the disciplines of Developmental Neurology, Developmental Morphology, Developmental Physiology, Developmental Psychology and Developmental Therapy which caters to children who have cognitive challenges, learning needs, behavioural difficulties, communication dysfunction, central motor dysfunction, sensory motor developmental needs etc. Neonatal nursery caters to over 3500 deliveries being conducted at this hospital and serves as a referral unit to a population of over 150,000. A state-of-the-art Neonatal Intensive Care Unit created history by becoming the first unit in India to be officially accredited as a LEVEL - 3 Unit by the National Neonatology Forum of India.

Fellow in Neonatology at Lourdes Hospital, Cochin, Kerala, India - Aug 2015 to April 2016. Lourdes Hospital, is a premier multi-specialist hospital in Ernakulam, attending to around 500 in-patients and 1700 out-patients daily. Lourdes Hospital, Kochi is equipped with state-of-the-art Level 4 Neonatal Intensive care unit (NICU). I was trained in all common and essential procedures in managing premature and sick neonate babies, which include perinatal counselling, resuscitation, intubation, Total Parenteral Nutrition preparation and infusion, lactational support, LED Phototherapy, umbilical venous and arterial line catheterization, percutaneous central venous line insertion, intercostal chest drain insertion, blood product transfusion, exchange transfusion, peritoneal dialysis. NICU management included routine care of preterm and LBW babies, neonatal jaundice, neonatal sepsis, respiratory distress syndrome and surfactant administration, meconium aspiration syndrome and HF ventilation, post-surgical neonates, neonates with developmental anomalies, therapeutic hypothermia for HIE etc.

The department has trained neonatal team, transport Incubators, Exothermic Mattress, advanced Neonatal Ventilators, CPAP machines, High flow oxygen devices, therapeutic Hypothermia for birth asphyxia, Advanced Cardiopulmonary monitoring equipment, one-to-one nursing by certified nurses, bedside X-ray, Ultrasound imaging & Echocardiography, developmental therapy and high risk follow up unit. Outpatient care included high risk baby clinic, well baby and immunisation clinic.

DCH (Diploma in Child Health) at Sri Gokulam Medical College & Research Institute, Venjaramoodu, India – 2012 to 2014. The medical college has more than 350 faculties and 700 beds. Training period involved comprehensive general paediatric care including PICU. There are well-baby check-ups, immunizations, developmental assessments, nutritional assessments. etc. There is a dedicated Neonatal Intensive Care Unit with Ventilators, Isolation Ward. The second year of training was dedicated to paediatric sub specialities – paediatric neurology, paediatric cardiology, paediatric oncology and paediatric radiology. We had academic programmes consisting of clinical case discussions, journal clubs, seminars, clinico-pathological and clinic-radiological correlation discussions, mortality meetings and bedside teaching clinics. I was also involved in teaching undergraduate paediatric students during this period.

MBBS – Pushpagiri Institute of Medical Sciences & Research, Thiruvalla, India – 2003 to 2010 (including internship). It is a 900-bed multi-disciplinary super specialty hospital.

Worked as Assistant Surgeon in Govt. Health Services, Kerala, India – 2014 - 2015.

Worked as Govt. medical officer, Cochin, India – 2010 - 2012.

Research activities and Publications

- Localization of brachial plexus lesions using artificial intelligence software vs expert clinician. This study involved the development of an artificial intelligence software aimed at the early detection of brachial plexus lesions, especially in the setting where a trained neurologist is not available, thereby facilitating early referral and better outcome. The software was developed using MATLAB and is in the process of being patented by Amrita institute of Medical Sciences.
- Sociodemographic and clinicopathological correlates of anaemia in children. The study was conducted to assess the burden of anaemia, contributing factors and its impact on the quality of life of children. The study covered a population of 200 children at 2 centres in Kerala, India.
- Colistin in Multi drug resistant neonatal sepsis, Asian journal of neonatology.
- Involved in research work in neonatology - correlation of serum albumin at birth with development of neonatal jaundice.
- Involved in data and sample collection for multicentre trial involving rotaviral diarrhoea in vaccinated and unvaccinated children.
- Involved in multicentre multiple sclerosis trial assessing outcome of patients treated with Alemtuzumab (ongoing)

Conference presentations & other activities

- Undergone PET (Paediatric Epilepsy Training) Part I conducted by BPNA (British Paediatric Neurology Association).
- Attended Comprehensive ILAE (International League Against Epilepsy) teaching course with a combination of lecture and expert – led practical sessions also.
- Attended KAN (Kerala Academy of Neurologists) Clinical Neurology teaching course for post graduate trainees.
- Completed PGI Neurological Society Neuro-ophthalmology web series 2020.
- Poster presentation - Colistin in Multi drug resistant neonatal sepsis.
- Poster presentation - Disorders of sexual differentiation.
- Poster - localization of brachial plexus lesions using artificial intelligence software vs expert clinician.
- Poster presentation: A case of double positive demyelinating disease- NMO and MOG positive transverse myelitis.

Academic awards

2nd prize at state level neonatology quiz.

2nd prize in zonal level IAP quiz.

Gold medal in SPM (Social & Preventive Medicine).

Professional Memberships

IAP (Indian Academy of Pediatrics).

NNF (National Neonatology Forum).

IES (Indian Epilepsy Society)

Personal information

Age, sex, nationality	- 35 years / Female / Indian
Date of birth	- 25-09-1985
Passport No	- Z3532635 ; exp. 24 January 2026
Marital status / spouse	- Married to Dr. Prashanth Gopinathan, Radiologist.
Children	- Three boys aged 10 and 7 (twins) years.
Interests	- Gardening, baking, reading, travel.

References

1. **Dr. Vinayan K P**, Prof. & Head, department of Paediatric Neurology, Amrita Institute of Medical Sciences, Cochin, India.
vinayankp@aims.amrita.edu
2. **Dr. Suresh Kumar Radhakrishnan**, Senior Consultant, Renai Medicity – Cochin, former Professor, department of Neurology, Amrita Institute of Medical Sciences, Cochin, India.
rkvilla3@gmail.com
3. **Dr. Arun Grace Roy**, Senior Consultant, Lisie Hospital – Cochin, former Professor, Pediatric Neurology, Amrita Institute of Medical Sciences, Cochin, India. drgraceroy15@gmail.com
4. **Dr Rojo Joy**, Neonatologist, Lourdes Hospital, Cochin, India.
drrojojoy27@gmail.com.
5. **Dr. PMC Nair**, Senior Consultant, KIMS, Thiruvananthapuram), Prof. & former Head, department of Neurology, at Sri Gokulam Medical College & Research Institute, India.