

Pediatrics: A Medical Branch for Future Generation

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Abstract

Pediatrics is a branch of medicine that deals with the medical care of infants, children, and adolescents. An eminent scientist named Abraham Jacobi (1830–1919) has been considering as the father of pediatrics because of his more number of contributions to this field. The medical branch of pediatrics has emerged into different branches like pediatric oncology, pediatric immunology, pediatric cardiology, pediatric critical care, pediatric dermatology, etc. Pediatrics is playing major role by saving lives of many children who will play major role in the future world. It has become the cornerstone of all the pediatric branches by working towards health care of children and can be regarded as a medical branch for future generation.

Keywords: Pediatrics; Pediatric oncology; Pediatric immunology; Pediatric cardiology, Pediatric critical care

Introduction

Pediatrics has developed as a specialized field of medicine in the mid-19th century. An eminent scientist named Abraham Jacobi (1830–1919) has been considering as the father of pediatrics because of his more number of contributions to this field. Pediatrics is a branch of medicine that deals with the medical care of infants, children, and adolescents. The medical branch of pediatrics has emerged into different branches like pediatric oncology, pediatric immunology, pediatric cardiology, pediatric critical care, etc.

Pediatric Oncology

Pediatric Oncology is a branch of pediatrics which deals with all oncology in infants. Posterior Fossa Tumors (PFT) and Acute Lymphoblastic leukemia (ALL) are the most generally seen cancer types in children. There is a need of improved medicine for childhood cancer treatment. Although there are advanced therapeutic approaches against cancer, cranial radiation therapy is still standing as one of the more efficient and effective one in combating malignant CNS tumors, like medulloblastoma, which has a high incidence in childhood [1]. Sometimes, there will be a chance of oral complications in pediatric cancer and 90 percent of patients may suffer with these complications [2].

Entinostat is a HDAC inhibitor, which has been shown to improve the antigenicity of Ewing's sarcoma in the laboratory, has activity against osteosarcoma in pre-clinical models, and has been associated with clinical benefit when given as a single agent in an adult with Ewing's sarcoma [3]. Rate of utilization of complementary and alternative medicine (CAM) therapies among adult and pediatric oncology patients is reported to range from 7-91% and 31-84% respectively [4].

Pediatric Nephrology

Pediatric Nephrology is a branch of pediatrics which deals with all nephrology of infants. Changes in the localization of kidney stones in children and adolescents may be occurring in parallel with the trends in medicine [5]. IgA nephropathy (IgAN) is currently the most common form of primary glomerulonephritis around the world. The glomerular lesions are characterized by immune deposits of mainly IgA1 in the mesangium and by mesangial cell proliferation and extracellular matrix expansion [6]. Hypertension is common in children with glomerulosclerosis who have advanced chronic kidney disease (stage III-V) or glomerulonephritis [7].

Pediatric Immunology

Pediatric immunology is a branch of pediatrics which deals with all the immunological effects of infants. Systemic lupus erythematosus (SLE) is an autoimmune condition characterized by multiorgan inflammation and autoantibodies production. Ten to twenty percent of cases are diagnosed in the first 2 decades of life with a peak incidence at 10-14 years with female predominance, the disease is rare in children below 5 years old. It has been suggested that children with Systemic lupus erythematosus (SLE) had different signs and symptoms at onset and a more severe and aggressive disease course than adult patients [8].

Pediatric Cardiology

Pediatric cardiology is a branch of pediatrics which deals with heart and heart related disorders of infants. Ventricular Septal Defect (VSD) is the most common congenital abnormality of the heart, accounting for 25% to 29% of all cases of congenital heart diseases. Spontaneous closure of ventricular septal defect occurs in 8.8% to 48% of children, depending on age. But, surgical correction is required in 32% of cases, of which 91% are the Perimembranous ventricular septal defect (PmVSD) type. Age and weight remain controversial risk factors for adverse surgical outcome for children with ventricular septal defect [9].

Pediatric Critical Care

Pediatric critical care is a branch of pediatrics which deals with critical care of infants. Qualitative approaches have rarely been made to synthesize and describe the causes of neonatal deaths in the hospitals during first referral care of the sick neonates [10]. Acute lower respiratory tract infection remains as one of the first causes of infantile death. Children in this situation are provided mechanical ventilatory support and in some cases noninvasive ventilation (NIV) in a first stage during admission in the intensive care units [11].

Conclusion

Pediatrics is playing major role by saving lives of many children who will play major role in the future world thus it serving as one of the lead branches of biology. It has become the cornerstone of all the above discussed pediatric branches by working towards health care of children and can be regarded as a medical branch for future generation.

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