

An Evidence-Based Practical Approach to Pediatric Otolaryngology in the Developing World

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KEYWORDS

- Pediatric otolaryngology • Global health • Developing country • Cleft lip
- Cleft palate • Foreign bodies • Hearing loss

KEY POINTS

- Involvement in global health and humanitarian efforts by US otolaryngologists has continued to increase the past 20 years, with pediatric otolaryngology surgical cases representing a large portion of cases.
- Otolaryngology services to underprivileged areas are limited by economic constraints, insufficient health budgets, poor infrastructure, and the minute amount of pediatric otolaryngology literature produced from developing countries.
- Literature from developing countries involve common pediatric otolaryngology diseases and surgical burdens including hearing loss, otitis media, adenotonsillectomies, tracheostomies, foreign body aspirations, and craniomaxillofacial surgeries including cleft lip and palate.
- When faced with poor resources and a unique disease burden, developing countries often must take an improvised strategy to treat pediatric otolaryngology disease processes.

INTRODUCTION

The care and management of pediatric otolaryngology diseases and congenital disorders plays a prominent role in humanitarian health care. A recent survey of American Academy of Otolaryngology – Head and Neck Surgery Foundation resident travel grants recipients from 2001 to 2015 showed that pediatric otolaryngology surgical

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cases represented 51.9% of the surgeries performed. The only subspecialty of otolaryngology that had a higher distribution of surgical cases was facial plastics and reconstructive surgery at 63.5%, but many of these cases involved pediatric cleft lip and palate reconstruction.¹

Despite humanitarian surgical groups, including otolaryngologists and trainees, traveling in record numbers to resource-limited areas, there remains a large burden of unmet need.² Otolaryngology services to underprivileged areas of the world are limited by economic constraints, insufficient health budgets, poor infrastructure, shortages of trained medical staff, and training programs.³ In a survey of otolaryngology services in 18 countries in sub-Saharan Africa, even basic procedures such as myringotomy and tympanostomy tube insertion were not available to the majority of patients, which means it is possible that these patients could die from treatable ear infections.⁴ A follow-up study reviewing data from 2009 to 2015 showed little progress in improving the availability of otolaryngologists, audiologists, and speech therapy services in these sub-Saharan Africa countries.⁵

Pediatric otolaryngology in the developing world is often faced with not only low resources, but with a different disease burden than the developed world. The increased prevalence of life-threatening infectious diseases such as human immunodeficiency virus (HIV) and tuberculosis have numerous otolaryngology manifestations. For example, these infectious pandemics are causing sensorineural hearing loss (SNHL) at an alarming rate, with 1 study showing up to 57% of patients treated for multidrug-resistant tuberculosis had SNHL, and up to 70% of patients treated for HIV had SNHL.³

The disparities in the developing world make it difficult to obtain quality data on the incidence or prevalence of pediatric otolaryngology diseases globally. Incidence or prevalence data presented in this article are mostly presented on a country-by-country basis, such as the prevalence of hearing loss (HL) in rural Nicaraguan children⁶ or the geographic distribution of surgical burden of cleft lip and palate in Zimbabwe.⁷ There is a meager amount of published information on otolaryngology that comes from the developing world. As would be expected, the little information that does come from developing areas of the world involve some of the most common pediatric otolaryngology diseases and surgical burdens including HL, otitis media (OM), adenotonsillectomies, airway obstruction requiring tracheostomy, foreign body (FB) aspiration, and craniomaxillofacial surgeries including cleft lip and palate. In this article, we discuss these issues and treatment strategies, and particularly how they differ in developed and developing countries. The challenges the developing world faces in treating pediatric otolaryngology disease process will be discussed as well as unique disease burdens they face.

COMMON PEDIATRIC OTOLARYNGOLOGY DISEASES

Pediatric Hearing Loss

Children with HL have been shown to be more likely to be unemployed as adults, have poorer academic achievement, and are less likely to finish secondary school.⁸ Although this is devastating for children in both the developed and developing world, some studies have suggested that the burden, grave consequences, negative impact, and stigma of HL are more pronounced in developing countries, especially in the countries of South Asia, Asia Pacific, and sub-Saharan Africa.^{9,10} According to the World Health Organization, there are 360 million people in the world with disabling HL with children comprising 32 million.¹⁰ Developing countries comprise the majority of the global burden of HL, while also having a greater proportion of preventable HL

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