



Hyundai Hope on Wheels Hyundai Scholar Research

Dr. Rodrigo Erana

Vannie E. Cook Jr. Children's Cancer and Hematology Clinic – McAllen, TX

An Epidemiological Study of the Pediatric Oncology Cases at Vannie E. Cook Jr. Children's Cancer and Hematology Clinic

Introduction:

Cancer is the chief cause of non-accidental death in children younger than 15 years of age. Thankfully, the prognosis for children with cancer has greatly improved in the past several decades. The average survival rate for these children is now approximately 75%, up from only 5% in the 1960s. Nonetheless, approximately 2,500 children are expected to die of the disease this year. Researchers believe that an improved understanding of pediatric cancer epidemiology—who suffers from it and why—is the key to eventually finding a cure for the approximately 12,500 to 13,000 children who are expected to be diagnosed with cancer this year. Advances in our understanding of the epidemiology of various adult cancers have led to important cancer screening and early detection recommendations; however, much more research is needed in the epidemiology of childhood cancer in order to develop prevention strategies for children who are vulnerable.

Statistical studies have also been used to characterize the socio-economically unique aspects of South Texas, or the area known as the Rio Grande Valley (RGV). This area is largely Hispanic (88.2% in 2000 Census) and has almost three times the national average of its population living below the poverty level (35.4% as compared to 12.4% in 2000). In RGV environmental exposure to chemicals is high, considering the importance of farming to the region. There is a general assumption among epidemiologists that cancer risk is increased in Rio Grande Valley, however this has not been proven.

The Vannie E. Cook Jr. Children's Cancer and Hematology Clinic (VECCC) in McAllen, Texas was established in 2001 and was the first in South Texas to provide complete care for children dealing with cancer and blood disorders. The clinic is affiliated with

Baylor College of Medicine and Texas Children's Hospital. Patients are now no longer forced to leave for treatment in various places like Houston, San Antonio and Corpus Christi. Because of this, a large portion of the pediatric cancer cases in South Texas are now centrally located within one location. Experience in VECCC gave us an opportunity, for the first time, to conduct an epidemiological study in pediatric oncology in South Texas.

Specific Aims

The main objective of this study is to describe the overall pediatric cancer experience at VECCC between 2001 and 2008, and compare these to the State of Texas. The study specific aims are:

1. Describing the epidemiological characteristics of the patients diagnosed with cancer between 2001 and 2008.
2. Describe overall survival of all patients diagnosed with cancer between 2001 and 2006.
3. Compare epidemiological characteristics and survival results with the Texas Public Health Region 11 and the State of Texas.

Methods

Aim#1: Medical records of all of the patients diagnosed between 2001 and December 31st, 2008 will be reviewed. The following information will be collected: Age at diagnosis, gender, ethnicity, race, cancer diagnosis. Mean, median and range values will be calculated for age and frequency tabulation will be prepared for the remaining variables.

Aim#2: Medical records of all of the patients diagnosed between 2001 and December 31st, 2006 will be reviewed. The study period is determined to ensure that patients will have at least 2 years of follow up after diagnosis. The following information will be collected: date of diagnosis, date of death and date of last follow up. Kaplan Meier method will be used to calculate overall survival for all patients, patients diagnosed with the three most common types of pediatric cancer, acute lymphoblastic leukemia, central nervous system tumors and lymphomas.

Aim#3: All of the characteristics that are investigated in aim 1 and 2 will be compared to the reported values for the State of Texas (latest data available from Texas department of Health, Texas Cancer Registry for 2001 through 2005).