GENETICS EDUCATION FOR PRIMARY CARE PROVIDERS IN COMMUNITY HEALTH SETTINGS

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ABSTRACT: Patients who are in need of genetic services are often inappropriately managed, in part due to inadequate knowledge of genetic issues among primary health care providers. The purpose of this study was to determine the effect of a genetics education program on the knowledge and attitudes of primary care providers in community health settings. A total of one hundred twenty-one primary care providers who work in Texas Public Health Region VIII participated in an educational program designed to provide basic genetics information. A one-group pretest-posttest design was used to assess knowledge and attitudes of subjects, and comparisons were made pre and post intervention. Pretest assessment revealed less than adequate knowledge about basic genetic principles and relatively positive attitudes among the subjects. Following the program, there were statistically significant increases in both knowledge about genetic conditions (P = .001) and attitudes toward provision of genetic services (P = .001). These results indicate that primary health care providers, motivated to learn complex materials and new skills in order to assist their patients, can do so in a relatively short time period.

INTRODUCTION

Numerous patients in need of genetic services in Texas Public Health Region VIII are unserved. Texas Public Health Region VIII consists of 28 counties and covers 31,767 square miles, with 66 percent of the total population of 1,887,152 living in Bexar County. In 1992, approximately...
20% of births in Bexar County were to women receiving prenatal care at Bexar County Title V primary care clinics (MCHs) and Federally Qualified Community Health Centers (FQHCs). At that time there were no on-site genetic services available in Bexar County MCH clinics or FQHCs. Genetic services for all Bexar County residents were obtained by consultation with four American Board of Medical Genetics (ABMG) certified physician genetic service providers at a university based genetics center in San Antonio, or with two ABMG certified physician genetic service providers in private practice. Patients seen at the MCHs and FQHCs were dependent on the primary health care providers at these facilities to recognize the need for genetic services and to make appropriate referrals.

The Texas Regional Genetics Network (TEXGENE) assessed the provision of genetic services throughout Texas during a three month period in 1992. There were 5,556 live births during the study period in Bexar County; 460 of the mothers were over the age of 35 years at the time of their pregnancy. Only 14 of these women were reported to have received genetic services at comprehensive genetic centers during the study period. Based on an expected birth defect rate of 3%, a projected 167 of the 5,556 live births were expected to be born with one or more birth defects in this quarter. However, only 70 children under the age of one year were evaluated at all comprehensive genetic centers in Bexar County during the study period. A subsequent survey completed in 1994 indicated that while genetic service provision in Texas had increased, still only about 20% of infants requiring services were being evaluated by a geneticist.

Clearly, the majority of women and children in need of genetic services in Public Health Region VIII, particularly among lower income levels, are not receiving these services despite availability of funding through Medicaid and/or Title V monies.

Underutilization of genetic services may in part be related to inadequate information and knowledge of genetics on the part of the primary health care providers. Numerous studies over the past two decades have reported findings of inadequate genetic knowledge of nurses and of a need to improve the genetic education preparation of both nurses and physicians. Additional articles and reports present information about the need to increase the genetics content in medical and nursing school curricula. More specifically, a survey of the knowledge base of 109 nurses in Bexar County indicated that primary care nurses within the area had inadequate knowledge of genetics. Nurse educators (n = 12), public health nurses (n = 43), school nurses (n = 24) and nurses employed in a children’s hospital (n = 28) participated in the study. With adequate knowledge being defined as 70% correct on a measure of genetic knowledge,