

# Impact of Consanguinity on Childhood Hearing Impairment in a Saudi Population

TAREK S. JAMAL\*, KAMAL J. DAGHISTANI\* and SIRAJ S. ZAKZOUK\*\*

\* Department of Otorhinolaryngology, Faculty of Medicine & Allied Sciences, King Abdulaziz University, Jeddah, and \*\* Security Forces Hospital, Riyadh, Saudi Arabia

## Abstract

To determine the current status of consanguinity among Saudi population and its effect on childhood hearing impairment. A randomly selected sample of 9,540 Saudi children representing all socio-economic and demographic groups were selected. A field work was carried out to enumerate and number the various areas of the provinces of the Kingdom. A survey team of a social worker, an otolaryngologist, an audiologist, and a nurse completed the questionnaire form, performed clinical examinations and audiological assessments using free sound speech, tuning fork test, pure tone audiometry using clinical audiometer Ac30 and tympanometry using GSI33 and Madsen Zodiac 901. The data were analyzed by  $\chi^2$  test using EPI-INFO computer software. A total of 9,540 children below the age of 15 years old were included. Parents of 19% of the children were first cousins and 28% were either second cousins or other relatives. The prevalence of hearing impairment was found to be 13% (0.83% severe, 2.42% moderate, and 9.75% mild). The prevalence of hearing impairment was significantly higher in children whose parents were either first cousins (16.14%,  $P < 0.00$ ) or relatives (12.42%,  $P < 0.01$ ) as compared to the children whose parents were not related (10.38%). Our study clearly demonstrated a high percentage of consanguinity among the Saudi population and a definite role of consanguinity in the etiology of childhood hearing impairment. A well planned counseling program to create awareness regarding the adverse effects of consanguineous marriages is needed to save the population from the disability of hereditary hearing impairment