

ABSTRACT

The prevalence of visual impairment in children, identification and examination of different risk factors was estimated in case control matched pair hospital based study with both descriptive and analytic components. This statistical study was aimed at to take a perspective over the factors which are significantly responsible for visual impairment among children up to the age of 10 years, also to examine them causally and find causal relations of significant variables and to model them to estimate the chance of visual impairment in the presence or absence of risk variables. Furthermore study also aimed at to find the effect of different factors on child visual impairment. These factors were measured by 40 observed variables. For the fulfillment of the objectives, a sample of 260 subjects (130 cases 130 controls) was achieved from the children up to the age of 10 years from PIPO Mayo hospital out patient ward and Children hospital out patient ward. Out of 260 subjects, 171 were male babies and 89 were female babies. Data for 39 risk variables was collected from the parents and the guardians of the children who accompanied them to the hospital, using pre devised questionnaire. Monocular and binocular visual acuity (VA) was measured using the VA Snellen's chart and If VA was less than 3/60, each eye was tested to perceive hand motion for ability to perceive light. Pinhole VA was assessed and those cases who improved by pinhole were refracted. Front segment examination was done with slit lamp. Posterior segment examination was performed using direct and/or indirect ophthalmoscope by senior eye surgeons as well as optometrist and ophthalmologist. Expected risk variables were categorized into five groups namely socio economic back ground, family history clinical observations, prenatal condition, postnatal conditions and environmental conditions. Percentages and count on each risk variable was calculated as a measure of descriptive analysis. Chi square test was applied to measure the association of each variable with occurrence of disease. Logistic Regression technique was applied to identify the significant variables and for the prediction of model. Odds ratios of each variable were calculated. Further more causal relations and path values of all variables were studied to verify the impact of significant variables on the occurrence of disease, besides to examine the total effect and contribution of each factor in determining the visual status of child. Finally it was concluded that cousin marriages in a family, congenital anomalies, retinal dystrophies, cataract, glaucoma ,cp, father smoking habit, premature birth of a baby and lack of vitamin A based diet play a primary and significant role towards the visual impairment in a child, while father occupation, residential area from which child's family belongs, grandparents history and RoP have come out to be secondary significant contributors in prevalence of blindness among children.