

The Effect of Birth Order on Conditions Having Genetic Etiology

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ABSTRACT Division of Human Genetics is the referral center for karyotyping and counseling. This particular investigation has been carried out as students project for a period of 2 months. Being a retrospective study the project has been done on 1000 consecutively referred cases with Mental Retardation, Multiple Congenital Abnormality, Bad Obstetric History (abortions and or livebirths) Male Factors (infertility, hypogonadism, ambiguous genitalia, Klinefelter syndrome), Female Factors (amenorrhea, Turner syndrome) and others (single gene disorders, syndromes, consanguinity, premarital counseling, multifactorial). In this investigation is reported, whether there is an association between birth order and the conditions for which the genetic etiology has been determined. It has also been attempted to find out the effect of birth order on the sex of the probands as well on the chromosomal abnormality. The gathered data from the detailed proforma was statistically analyzed with 'chi-square test'. Among the consecutively referred 1000 cases only in 790 cases complete information could be obtained, out of which the couples with BOH (365, 45.91%) have shown the highest referral followed by MR (142, 17.97%). The findings have suggested that the 1st birth order seemed to be associated to clinical conditions (304/ 790, 38.48%)($p < 0.001$). Birth order has shown preference to live born females (417/ 790, 52.78%)($p < 0.001$). 15% of the referred conditions had abnormal karyotype (120/ 790) and abnormal karyotype was not related to birth order ($p > 0.05$). Incidentally, the association between the chief complaints and consanguinity (223/ 790, 28.23%) was calculated and it was found to be significant ($p < 0.001$). In view of the absence of any other study based on such large size, it is opined that similar studies are in need to say with certainty, that there may be the effect of birth order on Mental Retardation, Multiple Congenital Abnormality, Bad Obstetric History, Male factors, Female factors and others.