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## Delay in the onset of male puberty: Role of mutations in hypothalamic-pituitary-gonadal axis

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M utations in *TACR3* and *LH-β* gene have been reported as a cause of delayed puberty and hypogonadotropic hypogonadism (HH) in human. The present study was designed to determine the endocrine based role of *TACR3* and *LH-β* genes mutations in HH in Pakistani boys. Thirty patients of delayed puberty with HH were included in the study. All patients had low levels of luteinizing hormone (LH) and follicle-stimulating hormone (FSH), growth hormone (GH), insulin like growth factor-1 (IGF-1) and testosterone (T). Eleven patients were receiving treatment (testosterone enanthate (TE) and IVF-C) and resulted in improved virilization. Genomic DNA was extracted and amplified by PCR using specific primers for screening of mutations in *TACR3* and *LH-β* gene. In our study, *TACR3* gene was selected and screened for His148Leu (H148L). While *LH-β* gene was screened for Gly56Asp (G56D) and Gly122Ser (G122S) mutations. H148L and G56D were not found in patients however, one mutation in *LH-β* gene was identified in two sporadic case of HH. The mutation was G to A conversion at nucleotide position 1561 and corresponding amino acid position 122 which cause the substitution of glycine amino acid with serine. This mutation (G122S) was found homozygous in fifteen years and five months old boy and heterozygous in sixteen years and three months old boy that might lead to reduced levels of LH and T; and possibly delayed the pubertal development. In conclusion, mutations in *LH-β* may play a role in delaying male puberty and cause HH in our local population.

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## Knowledge, attitude and practice related to sexual and reproductive health among adolescents living in urban slum areas in Narayanganj City Corporation of Bangladesh

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**Objective:** Study focuses on the improvement of sexual reproductive health (SRH) services provided within the Narayanganj City Corporation in Bangladesh.

Methodology: The study was a cross-sectional design and used both qualitative and quantitative data collection techniques.

**Findings:** A total of 911 adolescents were interviewed. Majority (55.9%) were from the age-group 14-16 years. 35.5% were found to be working. Less than a quarter of the adolescents were able to identify the common physical changes that occur during puberty. Only 21.2% of boys and 38.1% of girls had heard about contraceptives. 17.3% of boys and 11.3% of girls claimed to have ever seen a condom. 81.2% were aware of the legal age of marriage for females. 52.5% were aware of the potential risk to the life of young pregnant girls and their babies if married off at an early age. 58.2% of adolescents had heard about HIV/AIDS and most of them were aware of the ways of HIV transmission. At the same time, 25.6% had misconceptions related to HIV transmission. Only 2.4% heard of STIs. Most of the adolescents showed positive attitudes towards sexuality and expressed the view that both married and unmarried adolescents need to know about SRH in order to protect themselves from unwanted pregnancies and STIs including HIV/AIDS. 94.3% of the girl had experienced menstruation; most of them used cloth for menstrual protection which they washed with soap and water and then dried inside the room. Among the boys, 63.3% had ever experienced a wet dream. Gatekeepers demonstrated that most had misperceptions about adolescents' SRH, although almost all gave the subject much importance.

**Conclusions:** The study revealed that majority of the adolescents in the study area did not have adequate knowledge related to SRH.

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