Relative Telomere Length Association with Azospermia in Iranian Men
Farkhondeh Pouresmaeili 1, Reza Mirfakhraie2, Hamed Heidary 3, Mir Davood Omrani 4, Shadi Sayban 5, Hamid Ghaedi 6
Department of Medical Genetics, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran-Iran.

**Introduction**
Telomeres are specialized terminal capping structures at the end of eukaryotic chromosomes, composed of TTAGGG repeats and a variety of proteins such as shelterin and telomerase. There are some telomere related diseases including male infertility that reveal the importance of repeat size in the disease occurrence.

**Aim**
In this research study, we intend to explore possible relationship between leukocyte telomere lengths with azospermia.

**Methods**
In this case control study, peripheral blood was taken from 30 idiopathic infertile and 30 healthy and fertile men in Tehran. Following to DNA extraction, relative telomere length was determined by real-time PCR method using specific primers to the telomere region and a single copy housekeeping gene. The relative telomere length was measured according to a comparison between T/S ratios in patients and controls. The results were analyzed by SPSS and REST software.

**Results:**
The relative leukocyte telomere length (T/S) of azospermic men was found to be significantly lower (95% CI, p<0.05) when compared to controls (0.54 vs. 0.84) meaning telomere length in the case group was significantly lower than those of the control group (95% CI, p<0.05).

**Conclusion:** This study demonstrated a strong association between telomere shortening and azospermia in our subjects of Iranian infertile men. Besides, our research showed the blood could be enough informative and easy access tissue to study relative telomere size for determining azospermia genetic causes where there is no sperm to be evaluated. However, future investigation using a bigger population will evaluate the present findings.