The complete sequencing of the coding region and intron/exon junction TMPRSS6 gene (Reference Sequence NM_153609.3) was performed among 98 Saudi females in the current study. To the best of our knowledge, there is no previous study that identified this mutation in any population or database; therefore, it is a novel variant. Thirty–three variants were previously reported in the Single Nucleotide Polymorphism Database (dbSNP) and eight variants were novel (1 located in 50 UTR, 2 in introns and 5 were within exons). The size of the sequenced DNA was approximately 664 kb. Forty–one variants were detected; two variants were found in 50 UTR, 17 variants were located in introns, and 22 were variants located in exons. About 6.8 kb was sequenced for each participant.