6.0. CONCLUSION

Polycystic ovary syndrome (PCOS) is a significant clinical condition as it is a major affliction of women in the reproductive age globally. The incidence rates are steadily increasing with more environmental, physiological and genetic parameters being associated with the condition. An individual’s geographic location, ethnic origin, and cultural or social practices are known to alter manifestations of PCOS. Polycystic Ovary Syndrome (PCOS) is known to be characterized by metabolic disorder in which hyperinsulinemia and peripheral insulin resistance are central features.

The present study results were suggestive of a positive association between Gly972Arg of IRS1 and PCOS in the south Indian population. The single nucleotide polymorphism rs1801278 of IRS1 and rs2975766 of CAPNI0 were found to show an association in PCOS women with insulin resistance compared with the control women. Polymorphism rs689 of INS gene, rs1801278 of IRS1 gene showed a stronger association and its involvement in PCOS women with insulin resistance. SNP rs1801282 of PPAR-G gene seems to have a protective role against PCOS. The genotypes of SNPs strongly influenced BMI, waist/hip ratio, LH, LH/FSH ratio, insulin resistance, insulin levels, glucose levels, ovarian volume and antral follicular count in PCOS women. Interactions amongst SNPs were observed between PPAR-G and INSR, PPAR-G and IRS1, IRS1 and INSR. In conclusion, our study suggested that the polymorphism of Gly972Arg of IRS1 may play a certain role in the occurrence in women with PCOS and may be associated with insulin resistance. Further studies focusing the role of IRS1 are warranted to delineate its implication towards PCOS.