



# Risperidone associated changes in Prolactin and Bone Mineral Density: A study from South India

Thomas V Paul, Jayaprakash Ravan, Deepa Berganza, Nihal Thomas  
Departments of Endocrinology, Diabetes & Metabolism, Psychiatry,  
Christian Medical College, Vellore, India.



## BACKGROUND:

Risperidone is a widely used antipsychotic, known to cause secondary hyperprolactinaemia. Hyperprolactinaemia is associated with erectile dysfunction, amenorrhea and reduced bone mineral density (BMD). However, there is insufficient information about the extent, severity and association between these side effects, particularly among the south Indian population.

## OBJECTIVE:

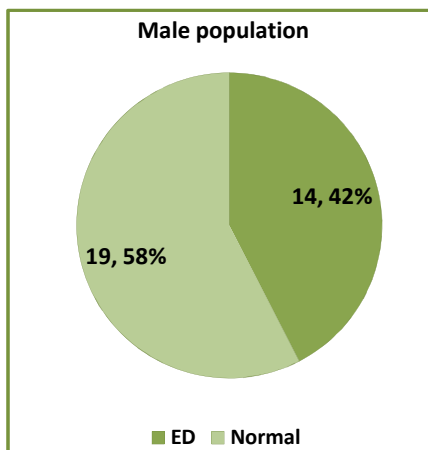
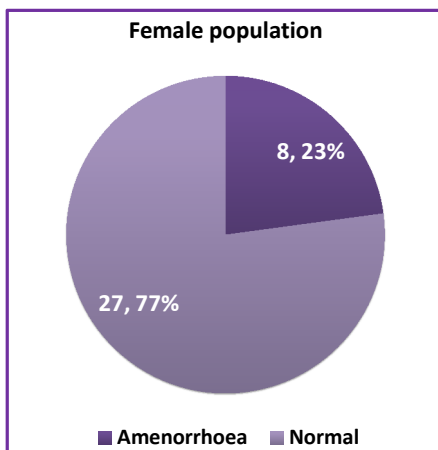
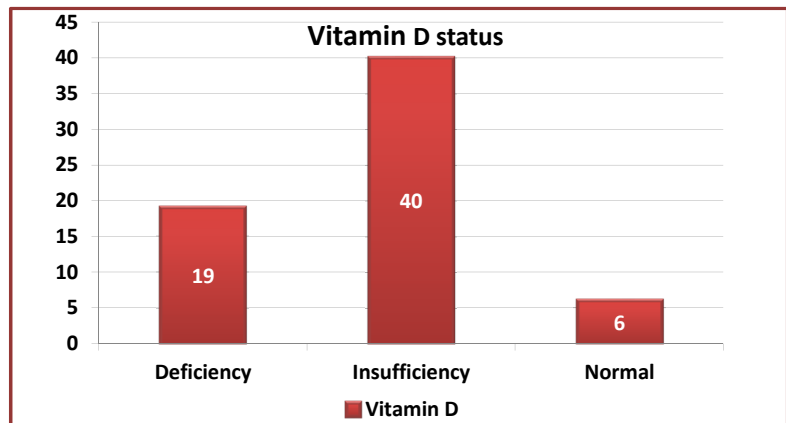
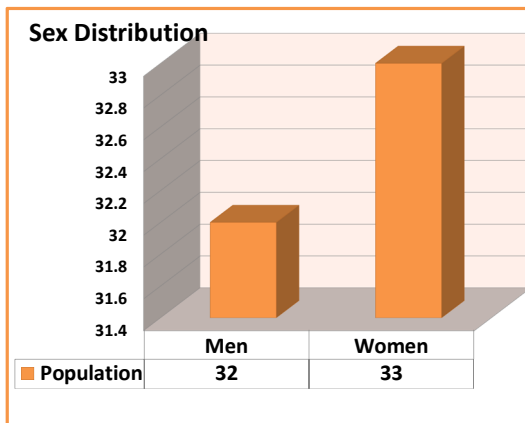
1. To estimate the prevalence of erectile dysfunction and amenorrhea, Hyperprolactinaemia, subnormal BMD (osteopenia and osteoporosis), and vitamin D deficiency in patients taking Risperidone for more than one year.
2. To investigate whether erectile dysfunction (ED) or menstrual irregularity can be used as a proxy indicator of BMD loss in such patients, replacing dual energy X-ray absorptiometry (DXA) scan.

## METHODS:

Sixty-five patients (32 men and 33 women) [mean age (SD)=29.6(6.5) years] receiving Risperidone as the only prolactin raising medication for minimum period of one year were studied. The history of erectile dysfunction and menstrual irregularities-Noted. BMD measurement of lumbar spine and left hip, serum prolactin and serum 25 - hydroxy vitamin D levels were assessed.

## RESULTS:

1. The prevalence of Hyperprolactinaemia (>25 ng/ml) in women and men (> 20 ng/ml) were 84.4% and 78.8% respectively.
2. Erectile dysfunction was reported by 44% men (n=14) and amenorrhea by 24% women (n=8)
3. Subnormal BMD was found in 50% of the subjects.
4. Furthermore, 30% subjects had vitamin D deficiency (<20 ng/ml) and 61% had vitamin D insufficiency (<30 ng/ml).
5. Significant association was observed between subjects having either ED or MD with subnormal BMD as compared to those not having them (OR 3.71; 95% CI: 1.23-11.24.P=0.02).



## CONCLUSION:

These results suggest that patients on long term Risperidone are at a greater risk of developing hyperprolactinaemia, reduced BMD and vitamin D deficiency. Multiple contributory factors or mechanisms may be responsible. However, these findings have to be corroborated in a larger study population.