

## **CHAPTER V**

### **CONCLUSIONS**

In summary, the present study indicated that the effects of METH dependence can induce alteration of sperm quality (decreased normal sperm motility and normal sperm morphology) and a decrease of AR expression in Leydig cells, round spermatids and elongated spermatids. Alteration of sperm quality may be caused by decreases of AR expression in the Leydig cells, round spermatids and elongated spermatids. These results indicated that AR expression play a role on spermatogenesis. However, the sperm concentration and the plasma testosterone levels did not significantly change in this study. Event though, the sperm concentration did not change but the result of sperm motility and the sperm morphology can indicate that METH is harmful to spermatogenesis. Then, the plasma testosterone levels were unchanged after treated with METH, this may cause effect of METH induce the copulatory behavior which relates to testosterone.

Finally, the effects of METH administration may cause alteration of sperm quality and AR expression in the testis that lead to impairment of sperm production and sperm fertilizing ability.