Summary
1. The adult female wistar strain albino rats with regular sexual cycles were selected from the rat colony of the department and divided into two groups. The first group of animals were maintained as controls and second group of animals were subjected to swimming exercise, 30 min. daily for 30 days.

2. The swimming group of animals were divided into three batches. The first batch was maintained as normal exercised (NE) animals. The second batch of animals were administered with exogenous prolactin and termed as prolactin administered exercised (EP) animals. The third batch of animals were administered with bromocriptine and termed as bromocriptine treated exercised (EB) animals.

3. The total period of estrous cycle was significantly higher in NE and EP animals over the control level. But EB animal had more of less control level of duration for the operation of estrous cycle.

4. The luteal phase of the sexual cycle was extended in NE and EP animals. But in EB animals it was maintained at the control level.
5. The ovarian surface of the control animals showed rough surface with well developed follicles at the estrus period.

6. The ovaries of NE and EP animals showed smooth surface with ill developed follicles, but EB animal ovary showed a rough surface with well developed follicles.

7. The tissue somatic indices of ovaries of NE and EP animals were markedly lower than the control level. But in EB animals, the TSI of the ovary was more or less at the control level.

8. The histological observation of the ovary of control animals indicated the presence of all developmental stages of follicles at the estrus stage.

9. The ovaries of NE and EP animals were devoid of the developmental stages of follicles. They had only atretic follicles. The ovary of EB animals recorded the presence of all developmental stages of the follicles without atretic follicles.

10. The ovaries of NE and EP animals had accumulation of cholesterol in comparison to that of the control animals. But the ovary of EB animals had decreased cholesterol content over the control level.
11. The ovarian $3\beta$-HSD activity of NE and EP animals was markedly inhibited over the control level. But the activity was higher than the control level in the ovary of EB animals.

12. $17\beta$-HSD activity of the ovaries of NE and EP animals was higher than the control level. But this enzyme activity was at the control level in the EB animals.

13. Steroidogenic function seems to be impaired in the ovaries of NE and EP animals. But the same seems to be restored in EB animals to control level.

14. The serum androgen-dependent marker enzymes were activated in NE and EP animals over the control level with suppressed estrogen-dependent marker enzyme activities.

15. In EB animals control pattern of androgen and estrogen dependent marker enzyme activities were restored to the control level.

16. The experimental evidences indicate lower levels of estrogen and higher levels of androgens in the circulation of NE and EP animals. In EB animals the possibility of normal sex steroid circulation seems to be restored.
17. NE and EP animals had high prolactin levels, lower FSH, LH and estrodiol levels (personal observations), indicating hyperprolactinemia, hypogonadotrophinism with low gonadal hormone levels. But EB animals had more or less control level of hormones.

18. The dry matter of the reproductive organs of NE and EP animals was remarkably decreased with accumulation of water. This denotes the occurrence of hydrolytic activities in the tissues. In contrast, EB animal tissues had more or less control level of dry matter indicating restoration of normal conditions.

19. The organic reserves such as proteins and carbohydrates were highly depleted in the ovaries and vaginae of NE and EP animals with accumulation of lipid components, in comparison to the controls. However, EB animals had the control level of organic components.

20. The uteri of the NE and EP animals the conditions similar to those with anti-implantation responses. But the conditions of the uterus of EB animals seems to be restored to the control level. The glycogenolytic pathway of reproductive organs of NE and EP animals was activated with suppressed oxidative metabolism which will be non-congenial for the proper reproductive
function. But in EB animals the oxidative metabolism was restored to the control level.

21. It can be concluded that exercise programme was inducing impaired reproductive tissue functioning, probably through the mediation of prolactin.

22. The prolactin level in the circulation of exercised animal seemsto be elevated, probably due to the release of inhibition on lactotrophs by dopamine because of its mobilization towards the formation of neurotransmitter, namely norepinephrine.