release mechanism at the hypothalamic level, as well as suppressing the usual feedback stimulus to LH release by estradoil secreted from the developing follicle. The estrogen component may reinforce ovulation suppression, inhibiting follicle ripening by suppression of FSH secretion. The theoretical mechanism of action of the sequential compounds is that the estrogen produces only the second of the above effects. This hormonal checkmate leaves the ovary in a quiescent state and causes reduction in both its activity and size. Other effects of steroidal contraceptives on cervical mucus and sperm activity have been described, but these drugs act mainly on ovulation. Perhaps the most important aspect of the committee's discussion centred on the real and potential hazards of these preparations, recognizing the fact that they are used by a very large number of Canadian women.

A number of studies have established an etiologic relation between thromboembolic disorders and the use of oral contraceptives. Additional evidence now suggests that the level of estrogen in these combinations may be a major factor determining the risk of thromboembolism in patients using them. However, additional time and investigation will be required to resolve completely the question of dose relationship and thromboembolic complications. In spite of possible deficiencies in the existing data, the committee felt that the basic principle in therapeutics embraces the concept that the smallest dose of medication consistent with achievement of the desired effect is, in general, the best treatment. In this instance the lowest dosage of the estrogens—mestranol and ethinyl estradoil—presently available in oral contraceptives compatible with virtually 100 per cent effective contraception is 50 micrograms. Thus, whenever possible physicians should be advised to prescribe a preparation containing not more than 50 micrograms of ethinyl estradoil or mestranol.

With respect to carcinogenesis, it has been shown that estrogens and progestogens are capable of producing or enhancing neoplastic changes in the endometrium cervix, ovary and breast in experimental animals. However, in some instances both estrogen and progestogen appear to be protective against neoplastic change. These results are not directly applicable to the human because of dosage differences, methods and length of administration, differences in species tissue reaction and a large number of other variables.

In the human there is no significant clinical study supporting the proposition that carcinoma in these or other sites is caused by the administration of synthetic estrogens or progestogens. Although a few cases of endometrial carcinoma have been reported after prolonged estrogen therapy in older women, there is no proof that this represents a cause-effect relationship considering the millions who have been treated with estrogens for menopausal symptoms. Progestogens appear to have caused regression of endometrial carcinoma and combined or sequential type oral contraceptives theoretically should not, and in practice have not been shown to cause endometrial malignancy in the human. There is no evidence to date of any increased incidence of premalignant or malignant change in the uterine cervix directly attributable to birth control pills.

With regard to the breast, there are no studies of sufficient duration to embrace the long latent period for cancer production but it is possible that prolonged steroid—estrogen—administration may imply some risk if given in the occult phase of the disease. The possible role of oral contraceptives in mammary carcinogenesis has been discussed and it is recognized that thus far, the first ten years of wide usage has failed to demonstrate a relationship in the human.

The Acting Speaker (Mr. Richard): Order. I regret to interrupt the hon. member, but his time has expired.

Mr. Stanley Haidasz (Parkdale): Mr. Speaker, I welcome the opportunity to make a few remarks on the issue of family planning and other related factors such as genetic counselling that the hon. member for Vancouver-Kingsway (Mrs. MacInnis) has brought to the attention of the House by asking for the production of papers which are really the results of research work funded by the Department of National Health and Welfare. I commend the hon. member, as others have already done, Mr. Speaker, because this is a problem which is very vital so far as population control and the environment are concerned. Furthermore, the physical and mental suffering from both legal and illegal abortions could be saved if parents and other people would take advantage of what is available now due to the progress in medical science and the health facilities provided by federal and provincial governments.

• (5:40 p.m.)

In the matter of family planning, Mr. Speaker, sound counselling is the fundamental issue. I should like to deal with the matter of the counselling of people who are going to be parents, and especially with the matter of counselling in genetics. Perhaps hon. members of the House are aware that the World Health Organization in Geneva submitted a report not long ago stating that genetic counselling is the most immediate and practical service that can be rendered in medicine, surgery and family planning. The report also said it is probable that in all countries 4 per cent of live births suffer from some genetic condition which could benefit from genetic counselling, either in relation to repercussions on the family or to successful diagnosis and treatment of hereditary diseases.

Medical genetics today has progressed far beyond the pedigree-collecting stage of the past. I can safely say that genetic concepts are directly influencing many aspects of medical practice even today. It is through the use of modern chemical and physical techniques in the study of the living organism that we have been led to the increased understanding of life processes, including those mechanisms by which genes guide, develop and function in the body. The essential function of the gene is to carry information. At the moment of conception the new zygote receives a selection of genes from each parent, which