predict alterations in sexual behavior as a result of hormone use.

I shall now review my own work and that of others bearing on the frequency and severity of emotional disturbance associated with oral contraceptive agent use. It must be borne in mind that almost all of the studies to be reported here refer to combination oral contraceptive agents with little data of a systematic kind being available on sequential hormonal agents.[1]

Glick surveyed the available literature on the use of oral contraceptive agents. Nineteen studies, mostly by obstetrician-gynecologists, revealed sporadic reporting of emotional distress, with a 5 percent incidence of depression being the highest reported. There were more favorable comments reported, though these comments, like the others, were likewise largely anecdotal. A similar scattering of reports from the same clinical material showed increased "libido," increased satisfaction with sexual relations, increased control of menstrual pain, and decreased premenstrual tension. Changes of adverse kind were much less frequent, but they were reported for all except premenstrual tension symptoms. Several not following this pattern Wearing reported, with a 16-percent incidence of depression in 62 patients, and when it occurred, the depression became more prominent the longer the patient remained on drug.

Moos reported a questionnaire survey of women asked to rate a variety of symtoms separately for menstrual, premenstrual, and intermenstrual phases of their most recent cycle and for their worst cycle. He reported that almost 80 percent reported slight decrease in menstrual symptoms, while 10 percent had a significant increase and 10 percent a significant decrease in menstrual symptoms. Sequential hormone users reported more symptoms of water retention and negative feeling than the combination drug group.

Bakke reported a double blind crossover study of an estrogen-progestin mixture, estrogen, and placebo in a menopausal group. In other words, there were three groups of treatments. Each patient took each treatment, but they did not know which they were taking. Twenty of 27 women preferred either estrogen or the oral contraceptive agent, which is to be expected in this age group. Complaints of moodiness, being cross and tired, alterations in sexual drive, weight gain, edema, and insomnia were commonest in the group using the estrogen-progestin group. Twelve women reported increased sexual drive. Six women who enjoyed the increase in drive continued on the drug, while six rejected the drugs because of this same change. Scott and Brass reported their experience in the use of massive doses of norethynodrel in the treatment of endometriosis on 20 patients. Daily dose varied from 40 to 100 mg. of norethynodrel. They commented that "mood and behavior changes were noted in all patients, and three developed moderate depressions that responded to antidepressant drugs. One patient also developed a tremendous increase in libido."

Senator JAVITS. Mr. Chairman, could we ask the witness, so we can appraise what he is testifying, whether there is any standard term of use of the pill by the people about whom he is testifying? How long had they used it?

[1] NOTE.—Bibliography at end of statement.