

From this we selected about 500 articles for careful review, and included about 200 in the final report. As you can see, and as you know from previous testimony, the medical literature on this subject is extensive.

In addition, there are a number of detailed volumes on this subject, one of the most notable being a report of a conference held in Boston last December entitled "The Metabolic Effects of Gonadal Hormones and Contraceptive Steroids." This is the conference organized by Dr. Salhanick and his colleagues. You have been already directed to this.

The task force was assigned the responsibility of reviewing what is known and identifying certain topics considered to be of particular importance. The effects of oral contraceptives on blood coagulation, thromboembolism, and cancer were covered in other task force reports and people like Dr. Hertz, in particular, have been here to discuss those reports. I shall summarize our report, but for greater detail I refer you to the full report as well as other literature on this subject.

The report identified over 20 topics for discussion. I shall review a selection of these topics in the order in which they occur in the report.

One of the most important features of oral contraceptives is their effectiveness. Few, if any, pregnancies have been known to occur in the millions of women on these drugs when the drugs are used correctly. They are so effective, in part, because they have at least three contraceptive effects. The primary effect is to inhibit the hormones produced by the pituitary gland which control the reproductive cycle. A second effect changes the lining of the uterus making it inhospitable to the implantation of fertilized ova. A third effect alters the cervical mucus making it difficult for sperm to enter the uterus. This multitude of contraceptive effects is reflected in the fact that oral contraceptives have manifold effects on other body functions as well.

Our evaluation is complicated by the fact that there are many different compounds with several modes of administration and that data derived from the study of one drug may not be relevant to the effects of another. At least six variables have been identified as important: (1) the specific agent employed; (2) the absolute amount of each agent; (3) the proportion between the two agents if more than one is used; (4) the route of administration; (5) the length of time the agent is used; and (6) the age of the user. All effects are dependent on these six variables.

The task force noted that little is known about the way in which the body absorbs, handles, or excretes these agents or at least the information was not available to us from the open scientific literature. Such lack of information on the metabolism of drugs is common since research of this type is difficult and expensive, but the task force felt that such information is particularly relevant to an understanding of the biological effects of these agents.

As already noted, oral contraceptives have a profound effect on the woman's reproductive cycle. The principal contraceptive effect is inhibition of ovulation, so far as we know. The means by which this is brought about is still not clear, due in large part to the lack of uniform and satisfactory means to differentiate among the various natural hormones involved. New techniques of measuring these hormones have recently been developed and should lead to a better understanding.