be misattributed to the administered therapy. A multitude of environmental factors may cause changes which patients attribute to their treatment. Alleged side effects of medication may actually be symptoms of inadequately treated preexisting disease (6). The natural or self-limiting course of the disease or an environmental factor may result in improvement and may be attributed by the patient to the physician's intervention.

CORRELATES OF THE PLACEBO EFFECT

Multiple interacting and competing variables derived from the patient, physician, environment, and culture may influence the placebo effect differentially, depending on the type of therapy rendered and the method of assessment. It is not surprising that a survey of the literature fails to find consistent correlates of placebo reaction, although several trends are apparent.

Patient Factors

Demographic factors such as sex, age, and intelligence are inconsistently related to placebo reaction. For example, some studies find that males react more than females, others that females react more than males, while most studies find no relationship between patient's sex and placebo response.

Although many personality variables have been hypothesized or reported in retrospective studies of the placebo response, few have withstood the test of prospective empiric scrutiny. At best, emotionalism, anxiety, and some personality variables such as acquiesence, social desirability, introversion, and extroversion are weak correlates of placebo reaction. They are often conceptualized as general predisposing factors, which may predict placebo reactions when combined with a multitude of other factors.

Physician Factors

The physician's contribution to the placebo effect, referred to as "iatroplacebogenics," has been emphasized in recent years. Discussion centers around three factors: 1) the physician's interest in the patient, which refers to the therapist's warmth, friendliness, liking, sympathy, empathy, disinterest, rejection and hostility; 2) the physician's interest in the treatment, which refers to the physician's faith, belief, enthusiasm, conviction, commitment, optimism, positive and negative expectations, skepticism, disbelief and pessimism; and 3) the bias generated by interest in the results of a therapy or experiment, which causes data distortion. These three factors have been demonstrated in many studies to be associated with successful treatment in general and with placebo effects.

Indirect iatroplacebogenics is a more subtle method by which physicians' motivations can effect patients' responses to treatment. It occurs when a physician's interest in a theory or treatment is misinterpreted and displaced by the patient as a personal interest by the physician in himself. Medical history provides many examples of prestigious physicians with intense intellectual and emotional commitments to various therapeutic theories and practices which were frequently elaborate, fashionable, expensive, and dangerous. After a period of great success, the majority of them were later judged to be ineffective. A common factor in these therapies was the interest of the physician.

USE OF PLACEBOS IN TREATMENT

Before 1960, most nonpsychiatrists favored the use of placebos in treatment. Although psychiatrists were predominantly opposed to the use of placebos before 1960, since that time they have accepted their use in treatment. In the late 1940s, an English survey of drug use indicated almost one third of the medicines prescribed could be considered placebos. Medicine has advanced since that time, and there is an increasing number of specific and active treatments for many symptoms and diseases. However, physicians still accept the use of vitamin B_{12} injections as placebos, and antianxiety-sedative-hypnotic drugs (including minor tranquilizers) are often prescribed for their nonspecific effects.

Can placebos be ethically and properly used in treatment? At the present time, the knowing or unknowing use of placebos is inevitable, although indications or counterindications are not possible to specify. Risk-benefit decisions are apt to become confounded by the physician's own value system. Therefore, encouragement should