

controlled studies. If placebo effects are not reported in controlled studies, the studies are considered unreliable. Appreciation of placebo effects is reflected in the speculation that historians will record as a major medical achievement of the 1960s the development of methods and controlled experiments to test the efficacy of treatment.

The importance of the placebo effect is often underestimated by clinicians. Physicians may attribute successful treatment to their knowledge and skills while failing to recognize their own shortcomings. Questionnaire studies reveal that physicians think that other physicians use placebos three times more often than they themselves use placebos. Practitioners tend to exclude their own methods of treatment from what they consider to be placebo treatment. Surgeons exclude surgery, internists exclude active medication, psychotherapists and psychoanalysts exclude psychotherapy and psychoanalysis. In research, placebos are commonly viewed as experimental artifacts that have to be controlled. Only rarely does the placebo effect undergo empiric scrutiny as a primary research topic.

### DEFINITION OF PLACEBO

The word "placebo" is derived from the Latin verb *placere*, meaning "to please" (3). In the 14th century, the term was used to describe a servile flatterer, sycophant, toady, or parasite. This usage was derived from derogation of professional mourners who were paid to "sing placebos" at the bier of the deceased, a role originally reserved for the family.

Few people realize that medical dictionaries have limited their definition to inert or inactive drugs only during the past few decades. The original medical definition appeared in 1785 as "a commonplace method or medicine." This original definition was often misquoted as a "commonplace method of medicine." The distinction between "of" and "or" is important since the former limits its definition to medicines (ie, drugs) while the latter includes methods (eg, procedures, devices, talking therapies). As drugs became more important, the meaning became limited to medicines. With the advent of controlled clinical trials, the

meaning became limited to inert drugs. However, recent medical dictionaries have expanded their definition so that the meaning of "placebo" is more like the original 1785 definition.

A definition which we believe fulfills historic and heuristic criteria is as follows:

A placebo is any therapy or component of therapy that is deliberately used for its nonspecific, psychologic, or psychophysilogic effect, or that is used for its presumed specific effect but which is without specific activity for the condition being treated. A placebo, when used as a control in experimental studies, is a substance or procedure that is without specific activity for the condition being evaluated. The placebo effect is the nonspecific psychologic or psychophysilogic result produced by placebos.

There are several important features of this definition. Placebos may be knowingly or unknowingly prescribed. The criteria for separating placebo from nonplacebo is based on objective evaluation. Placebos may produce negative, positive, or no noticeable effects. Placebos may take the form of oral and parenteral medication, topical preparations, inhalants, and all mechanical, surgical, and psychotherapeutic devices, procedures, and techniques.

Although this definition may prove to be too inclusive, at present it would be premature to make any specific exclusions. It is likely that placebogenic factors will be reliably isolated as treatment regimens become more thoroughly investigated. Once isolated, placebogenic components may have the potential to become specific therapies in their own right. For example, operant conditioning, which contributes to the manifestation of placebo effects, has become a specific psychotherapeutic procedure.

### MECHANISMS OF PLACEBO ACTION

A wide variety of mechanisms have been advanced to explain how placebos produce placebo effects. Unfortunately, no single process can account for the diversity of empiric results. It is likely that the placebo effect is a multidetermined phenomena and that multiple pathways exist by which the placebo effect may become manifest. Definition, explanation, and integration of