

Patient Self-Monitoring of Behavior

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Family physicians often rely solely upon patients' recollections of events in the assessment and treatment of psychological complaints. One important method that is likely to enhance the quality and quantity of relevant clinical data is patient self-monitoring. Self-monitoring involves utilizing patients as self-observers and systematic recorders of information concerning their target complaint(s). Self-monitoring affords several advantages to both the patient and physician. It is especially useful as a basis for performing a functional analysis of behavior. The most valuable aspect of patient self-monitoring lies in the systematic collection and summarization of clinical information that is crucial for the assessment and treatment of psychosocial complaints.

Primary care physicians frequently encounter patients whose presenting symptoms may be a manifestation of psychological distress. Patients' self-reports about their symptomatology (eg, intensity) serve an important role in influencing the family physician's subsequent diagnosis, prognosis, and selection of potential treatment strategies. All too often patients are asked to recall information about a presenting complaint which may have never been committed to memory, may have been stored in memory inaccurately, or may have been accurately stored in memory but became distorted or biased in some manner during retrieval.

The precision and accuracy of the medical history is extremely important for understanding and treating psychosocial complaints. Physical and lab-

oratory examinations frequently fail to yield pertinent data. When physicians attempt to diagnose psychosocial complaints without accurate historical data, the result is often nonspecific diagnoses (eg, stress) and nonspecific treatments (eg, tranquilizers, hypnotics). How can family physicians increase the quality and quantity of clinical self-report information provided by their patients? In this article the usefulness of self-monitoring procedures in providing clinical information about psychosocial complaints and as a basis for developing effective treatment strategies is discussed.

Advantages of Self-Monitoring

There is little doubt that patients serve an important role as information banks throughout the diagnostic and therapeutic process. Thus, it is important for physicians to interact with patients in ways that are likely to enhance the usefulness of the information provided by them. Recently, behaviorally oriented psychologists have become interested in the topic of behavioral assessment, especially the

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self-monitoring of behaviors.¹⁻⁴ Through self-monitoring, the patient serves as a direct observer (recorder) of his or her own behavior.

Asking patients to monitor their behavior provides several advantages. The mere act of calling attention to one's own behavior gives the patient direct information about the problem as it is occurring in his natural environment. However, reactivity effects (the process by which the act of observation or self-observation changes the behavior in question) are well documented.⁵⁻⁹ Reactivity has been demonstrated to be therapeutic by its effectiveness in changing the frequency of numerous behaviors, including smoking, eating, and hallucinations.⁹ Reactive effects due to self-observation appear to occur in the desirable direction, in that negative self-monitored behaviors decrease and positive self-monitored behaviors increase. From an experimental perspective this phenomenon undoubtedly biases pretreatment (baseline) levels somewhat as true estimates of problem severity. Nonetheless, from a therapeutic standpoint, reactive effects are likely to bolster the patient's motivation and expectancy for change.

A second implicit advantage of self-monitoring is that patients assume a more active role in their treatment. In short, patients are given the opportunity to collaborate with their physician in attempting to understand and manage some aspect of their own life.

A third advantage is that self-monitoring teaches patients to make finer discriminations about their behavior. The patient possesses in the self-observation chart or diary a running log of his or her own problem behavior across a variety of situations over a given period of time. For example, the patient who suffers from tension headache is able to account for those situations that precipitate headaches, and the overeater is provided with a list of events or circumstances under which overeating occurs. The patient's understanding of his or her problems, as well as the physician's understanding, is therefore enhanced.

Fourth, the information obtained from self-monitoring is also important for determining a treatment strategy. A behavioral treatment can be tailored to meet the therapeutic needs of a particular patient. Finally, self-monitoring of behavior(s) throughout the treatment process provides a measure of the efficacy of the treatment intervention.¹⁰ The physician is provided with ongoing feedback

about the potency of the intervention. The failure to help the patient should be reflected in the clinical record, whereas the gradual reduction or elimination of the target complaint supports the continuation of the ongoing intervention strategy.

Functional Analysis of Behavior

Effective treatment by the family physician presupposes a thorough understanding of the patient's presenting complaints. Certain key questions come to mind and must be addressed by the family physician. First, the physician and patient must decide what the presenting complaint is. This decision involves more than just the physician's superficial acknowledgment of the subjective label (eg, overeating) provided by the patient. Rather, the physician must meticulously explore the problem with the patient with the aim of developing an objective definition of the complaint. Subjective labels used by the patient must be objectified. The behavioral manifestations of the complaint need to be clarified in objectively identifiable terms.¹ In short, the physician and patient must agree about the definition of the problem.

Second, the physician must determine those conditions or circumstances under which the problem becomes manifest. The delineation of those situations that precipitate or exacerbate the target complaint provides valuable information to both physician and patient alike. Moreover, if the problem is found to be more likely to occur in one situation or class of situations than another, then the exploration of existing differences in these situations will often cue the physician to subtle precipitating factors.

Third, the physician must obtain some objective measure of the severity of the presenting complaint. The physician can easily obtain information about problem severity by helping the patient to focus upon the frequency (how often it occurs), duration (how long it lasts), and intensity (how aversive it is) of the problem when it occurs outside the office.

Fourth, the physician must consider whether any conditions in the patient's environment (eg, reaction of spouse to a functional complaint) may be serving to help maintain the problem. In some

instances there may be reason to suspect that a psychological complaint of a patient may be reinforced by the impact of the symptom(s) upon the patient's social environment (eg, parents, spouse, friends, children). The symptom may provide the patient with some positive gain (positive reinforcement) or may serve to remove the patient from some anticipated aversive situation (negative reinforcement).

Methods of Self-Monitoring

There are a variety of self-monitoring methods available for the practitioner. For example, Shelton and Rosen⁴ have reviewed ten methods, including a diet-monitoring form, a frequency-recording system of activities for chronic pain patients, a frequency-recording system for multiple target complaints, and a duration-recording system for headaches. A recent excellent review has also been undertaken by Ciminero et al.² One method, the functional analysis diary, has been found to be quite useful in practice. The patient is instructed to record the day, frequency, duration of each occurrence, precipitating situations, the consequences of his behavior, and an intensity rating (1, a little discomfort; 5, extreme discomfort). The resultant information is then used to plan an intervention therapy.

Case Report

Mr. G. was a 30-year-old dock foreman who sought treatment at the Tatem-Brown Family Practice Center. He complained of severe headaches, occasional difficulty in sleeping, and a "tight" feeling in the stomach area. He was married for a second time, and his wife was expecting their child in a few months. Review of systems was unremarkable, as was his past medical history, except for mild hypertension. The patient reported that the headaches began about four years ago, at the time of his divorce from his first wife. Since then the headaches became progressively worse about the time the patient assumed a super-

visory position at his current job. The pain was described as bandlike, steady, and nonpulsating. During the weeks prior to the initial session, Mr. G. was suffering from "several headaches a week." The patient reported that the headaches usually seemed to occur during the night while he was at work and usually lasted for a few hours after he returned home. He was at a loss to specify the precipitating events and stated that "some nights were worse than others." Mr. G. was instructed to collect self-recorded baseline information with a diary over a two-week period and to return to the center.

Self-monitored information revealed a definite pattern to the occurrences of the headaches. Precipitating situations invariably involved pressure about completing specific assignments (eg, supervising the unloading of a trailer and not having the requisite number of men or necessary equipment to do so) and arguments with his boss and supervisees. A typical instance was one in which a shipment would arrive late. This situation would elicit extreme tension as Mr. G. attempted to complete the unloading process before the end of the night shift. Failure to do so usually resulted in an explosive argument with an unsympathetic boss, which was followed by more tension.

Treatment plans followed directly from the patient's self-recorded information. First, since the patient suffered from tension headache, a course of relaxation therapy was prescribed. Mr. G. was instructed in progressive muscle relaxation and asked to practice at least twice a day. When the patient became proficient in relaxation, he was asked to apply the response on the job when he began to feel tense. The headaches subsequently subsided, and the patient felt considerably less tense. He also began to feel better about himself and reported many instances in which he was relating much better to his boss and supervisees. At a six-month follow-up visit the patient reported no tension headaches.

Ten Practical Suggestions

There are a number of practical guidelines that the family physician should consider before using any self-recording procedure with patients.

1. Ensure that the patient thoroughly understands the purpose, usefulness, and mechanics of self-monitoring. The family physician can accomplish these tasks quite easily by educating the patient about the concept of self-observation. The physician should also emphasize the importance of obtaining reliable and valid information. Explain how and why the information will be used in diagnosis and treatment. Finally, be certain that the patient understands the particular self-monitoring procedure and how to apply it. Any of these tasks could easily be carried out more conveniently by a nurse. The time spent in educating the patient is well worth the cost of potentially losing valuable, clinical information.

2. Define the target behavior (complaint) explicitly. The physician should help the patient clarify the critical components (behavioral referents) of the behavior in question. Both physician and patient must agree about the definition of the target behavior. Explicitly defining the problem behavior will help the patient to discriminate its occurrence and nonoccurrence. Sometimes there is also merit in having the patient record in written form the precise definition of the target problem.

3. Select the easiest and most appropriate method of self-monitoring, that is, choose not only a technique which the patient can conveniently use but also one which yields a maximum amount of relevant information. Practical issues such as the amount of time, effort, cost and equipment required to self-monitor properly must be carefully weighed with the patient in mind.^{11,12}

4. Be cognizant of possible, unplanned changes in the patient's social and physical milieu that may alter the frequency, intensity, or duration of the target problem during self-monitoring. Such extraneous events may drastically change the meaning of self-reported information. For example, a patient who complains of sleepless nights that are as yet unknown to be related to tension at his job may exhibit a seemingly miraculous change in his sleeping pattern concomitant with self-monitoring prior to treatment. The physician and patient who believe that the problem has been cured will be deservedly astonished at the resurgence of the problem when the patient's supervisor returns from a three-week vacation. The physician can easily address these issues by directed questions (eg, What changes, if any, do you anticipate in your home or working environment over the next

couple of weeks?) as well as by inviting the patient to be sensitive to any changes and to report them.

5. Encourage patients to schedule and collect self-observations across a wide variety of situations. Limiting self-monitoring to a small number of situations may prevent a full understanding of the patient's problems, especially if these situations preclude the omission of the target behavior (complaint). Physicians must consider how the patient's scheduling of self-recording may bear upon the utility of the self-observations. For some problems the physician may need to encourage the patient to set the occasion for the response to occur (eg, asserting oneself to a co-worker).

6. Reinforce the patient for accurate,⁴ precise, and reliable self-recording of the target behavior(s). As an authority figure, the physician can serve as a powerful social reinforcer for the patient's recording behavior. Thus, by emphasizing the importance of the task, the physician can bolster the patient's motivation to approach the task with honesty and sincerity. There is evidence¹³ to suggest that reinforcing (eg, praising) patients for accurate self-monitoring actually increases the accuracy of the data. Physicians, however, should be cautioned about unintentionally reinforcing patients for reporting "good data." The patient who misconstrues the message may tend to ignore occurrences of the problem behavior and report only positive information for fear of disappointing the physician.

7. Inform the patient that self-monitoring often produces reactive effects.^{7,9,14} Individuals behave differently when they are aware that they are being observed by others or even by themselves. From a clinical perspective, reactive effects appear to occur in a direction congruent with treatment. Physicians can therefore use reactive effects to their advantage in helping the patient. It is also conceivable, however, that valuable information may be lost as a result of reactivity. Shelton and Rosen⁴ recommend that informing the patient and emphasizing accuracy will help to deal with this phenomenon. Family and spouses might also be requested (with the patient's permission) to inform the physician of noticeable changes in the target behavior that may suggest reactivity is operating. Finally, it is also useful to have the patient generate a list of those situations he believes previously elicited the target response during the time self-monitoring is being undertaken.

8. Use unobtrusive and random reliability checks. In order to ensure and test the reliability of self-monitored information, it is useful to employ someone in the patient's environment (eg, spouse) as a reliability checker. High reliability implies that the self-monitored information could be replicated by another observer. The use of an independent observer serves as a check on the accuracy of the clinical information and is utilized quite often, especially in the behavioral treatment of insomnia.¹⁵ Reliability between self-monitoring patients and observers is always higher when the patient is aware that the reliability of the self-recordings is being checked.⁷⁻⁹ Thus it is useful to inform patients that their self-observations will be checked, but never make them aware when the checking will occur. Of course, in using a family member as an independent observer, the spouse's capacity for objectivity should be weighed carefully. The patient's problem or symptom may have some meaning for the spouse.

9. Be aware of the potential biasing effects of patient and observer expectancy upon global evaluations of a problem as a measure of therapeutic effectiveness. Expectancy bias is well-documented in the social psychology literature.¹⁶ An observer who is given a specific expectancy for change, such as improvement, can be biased by this information and actually report improvement when no actual change in specific behavior has occurred. There is evidence that an observer's global evaluations, which are subjective in nature, can be influenced in the direction of an induced expectancy.¹⁷ Expectancy bias, however, does not appear to influence the self-monitoring of specific behavior or objective behavioral observations by external observers.^{9,17,18}

10. Collect self-monitored information about the patient's target behavior during baseline (prior to intervention), treatment, and follow-up. There are several advantages to gathering self-monitored information over time. First, pretreatment levels of the target problem will serve as a criterion by which to measure treatment efficacy. Second, self-monitored behavior provides crucial information for determining the selection of treatment. Third, the physician will have access to an ongoing record of the resistance of the problem. Lack of change on the target complaint may necessitate a reanalysis of the problem and implementation of a different treatment. Finally, follow-up measure-

ment provides a true test of the stability of behavior change. Physicians need information about the long-term impact of a psychosocial intervention. The family physician is in a unique position of having continued long-term access to the patient and the patient's family. Follow-up measures serve as an indication of the degree to which the patient has learned alternative ways of responding.

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