Drugs To Control Classroom Behavior?

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IN LATE June of 1970, the Washington Post reported that doctors in Omaha, Nebraska, were giving hundreds of school children so-called behavior modification drugs to make them "behave" better. Five days later Huntley-Brinkley featured a news story about the Omaha situation on their national newscast. These, as well as other news media, posed some very real concerns about possible misuse of various drugs designed to modify the behavior of overactive children.

One of the major thoughts coming out of this issue questioned the right of educators, parents, school administrators, physicians, and others to suggest that a child be given medication to modify his behavior. As many began debating and discussing this issue, one thing became clear: there is throughout the United States a gross misunderstanding and consequent misuse of the psychopharmacologic process as it is used in attempting to modify the behavior of overactive youngsters.

Questions About Drug Usage

Educators, now and in the future, must make themselves more knowledgeable about the overactive child syndrome and the various methods for dealing with this type of problem youngster. The purpose of this article is to focus on many of the concepts related to the overactive child who is medicated with drugs such as Ritalin and Dexedrine in an effort to modify his overactive behavior. Many of the observations in this article were drawn from an 18-month study (1969-70) of Franklin County youngsters in and around Columbus, Ohio. During the course of the study it was possible to make observations of several recurring commonalities associated with the administration of Dexedrine or Ritalin to modify behavior.

As the study progressed, it became apparent that many questions beset educators and other professional people who are involved in some way with using medication in an attempt to control overactive behavior in youngsters. The following represent some of the more frequently asked questions.

Why Are Some Youngsters Medicated While Others Are Not?

1. What is felt to be overactive behavior by one teacher is simply not overactive to another. Therefore, some youngsters who are recommended for medication would not be if they had a different teacher.

2. Some teachers are capable, through various skills such as behavior modification

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techniques, to control overactive behavior effectively, while other less skilled or ambitious teachers will feel the need to recommend medication to control behavior.

3. Some teachers seem to be captured by a mystique surrounding the use of pills as a "cure-all." Apparently, many teachers equate the power of penicillin and other wonder drugs to the behavior modification drugs and, in so doing, hope for dramatic results.

4. Recommending medication to a parent seems to suggest a degree of professionalism and knowledgeability to some teachers. It provides a way of dealing with a problem with which few parents are familiar.

5. In some instances, teachers have tried virtually all ways to control a child's behavior, and almost out of desperation they resort to recommending medication to parents, hoping that this will solve the problem.

While these comments are critical of teachers, they do represent possible answers to the question, "Why are some youngsters medicated for overactive behavior while others are not?" It would be unfair to suggest that these reasons are representative of the majority of teachers recommending medication, but it would be equally unfair not to mention that a number of teachers operate with these rationales.

Who Should Receive Medication?

Burks (1964) refers to hyperkinesis as a type of overactive behavior. Hyperkinesis he defines as "the physiological expression or accompaniment of tension in an individual. Hyperkinetic behavior depicts the processes which are not subject to conscious innervation, but are primarily energized by the autonomic nervous system." His definition of hyperkinesis suggests that because of organic involvement, the youngster is physically unable to control his behavior.

On the other hand, the child who is used to a loosely structured or nonstructured environment, or who has certain personality needs which dictate acting-out behavior, will manifest many of the same behaviors as the hyperkinetic. The causes, however, will often be environmental rather than organic. The environmentally-based overactive is often referred to as the hyperactive; the organically-based overactive as the hyperkinetic.

Sainz (1966) explained the results of a clinical test which he suggests is an effective way to determine whether a child is hyperactive or hyperkinetic. He placed hyperkinetic children (age range seven years through eleven years) in a playroom and administered 20 mg. of Ritalin to them. He suggested that if a child is hyperkinetic, the hyperkinesia will completely disappear in 15 minutes to one hour. On the other hand, if the child is hyperactive, his behavior remains the same or gets worse in that same time period. There is thus a need to determine as nearly as possible whether a child is hyperkinetic or hyperactive before considering him for referral to a physician for possible medication.

The classroom teacher does not have the clinical facilities that Sainz had. What clues can he look for to help substantiate the suspicion that a youngster is hyperkinetic rather than hyperactive? Knobel (1962) suggests that it might be possible to differentiate the hyperkinetic from the hyperactive by close observation of his behavior.

The organic is erratic, without direction or objective. His behavior is almost ceaseless and without change in home, school, or any other social situation, and is generally accompanied by some slight choreoathetosis movement. (Choreoathetosis refers to slight, irregular, jerking movements caused by involuntary muscular contractions.) The aggressivity and impulsivity are without goal and apparently senseless. The child's inability to postpone gratification is endless and urgent whether he is at home, in school, or wherever he may be.

The hyperactive, on the other hand, ... shows some direction and intentionality in his aggressivity and impulsivity. In this child it is possible to obtain certain structure and coordination in various aspects of his behavior which certainly might be different according to where the child finds himself or with whom he relates himself.
Closely observing a youngster’s behavior by applying the criteria which Knobel suggests and comparing the behavior of the youngster to that of his peers will do much to help answer the question, “Who should receive medication?” In essence, every effort should be made to determine whether the child in question is hyperkinetic or hyperactive.

Closer observation of a youngster’s behavior in a variety of settings will do much to prevent hyperactive youngsters from being unnecessarily medicated.

**What Are Some Possible Causes of Hyperkinesis?**

Martin (1967) postulates, as do others, that hyperkinesis results from “minimal brain dysfunction” which may be a result of genetic, developmental, metabolic, toxic, or infectious processes. He also raises the question of fetal milieu with all of the pre-, para-, and post-natal possibilities for brain damage. Laufer and Denhoff (1957) hypothesize that “stimuli coming from the sensor and visceral receptors pass through the diencephalon on their way to cortical areas.” The diencephalon, they theorize, may “serve to pattern, route, and give valence to these stimuli.” In that case, any injury to, or malfunction of, the diencephalon would “alter resistance at the synapses and would thus allow incoming impulses to spread out on the usual pathways and irradiate large cortical areas.” It should be mentioned that if this theory suggesting that an aberrated diencephalon may be responsible for hyperkinetic behavior has merit, the electroencephalograms used so often as a diagnostic tool in determining etiology would be of little value.

Millichap and Fowler (1967) suggest that the following factors are most often organic causes of hyperkinesis: brain injury or anoxia (oxygen debt) during pregnancy or birth, encephalitis, and meningitis. These, in turn, create brain lesions and other damage which can cause delayed maturation of that portion of the brain responsible for hyperkinetic behavior.

The delayed maturation concept is considered important by many, since it suggests that a youngster can actually “outgrow” his hyperkinetic problem during adolescence. If this theory has validity, this should indicate to educators the importance of controlling hyperkinesis with medication during the critical learning years. Failure to do so could result in the youngster’s missing the basics of learning, thus developing a possible attitudinal problem and consequently entering into the adolescent period with educational and social skills considerably more deficient than they would be without a hyperkinetic disorder.

**What Drugs Are Most Frequently Used To Control Hyperkinesis?**

Millichap and Fowler (1967) reviewed the published reports on drugs used to treat hyperkinetics. Based on calculations of the mean incidence of improvement and toxicity in these published reports, these researchers rated the drugs according to efficiency. This study, as well as others, suggests that Ritalin and Dexedrine are the two drugs used most frequently by physicians in treating hyperkinetic behavior disorders.

Of the two drugs, Ritalin is the newer. The first controlled study published on Ritalin was apparently conducted in 1958 by Knobel (1962). Dexedrine, on the other hand, has been used since at least 1937, when Bradley first published the results of his studies using amphetamines (Dexedrine) on hyperkinetic children (1941).

Ritalin, as described by CIBA Pharmaceutical Company, is “a mild stimulant and antidepressant which brightens mood and improves performance.” Dexedrine, as described by Smith, Kline, and French Laboratories, is “a mild stimulant which can be used to restore optimism and mental alertness and to induce a feeling of energy and well-being.” Both Ritalin and Dexedrine are mild stimulants and should not be confused with tranquilizers, as they are so frequently.

Nobody apparently knows for sure how Ritalin and Dexedrine work to control hyperkinesis. Knobel (1962) notes that Ritalin apparently makes its basic contribution as a
“stimulator of the cerebral cortex, thereby allowing for true integration of behavior.” Burks (1964) feels that Ritalin and Dexedrine probably act on lower brain centers and that the drug alters the function of the diencephalon in such a way that it once more can keep the cortex from being flooded by streams of unmodulated impulses coming in from sensory receptors.

Despite considerable doubt regarding the precise way in which Ritalin and Dexedrine work to modify behavior, a number of studies have illustrated their effectiveness.

Knobel (1962) studied the effects of Ritalin on 150 patients with the typical symptomatology of hyperkinesis. Results in this study were recorded through teachers' and parents' reports and direct clinical observation. The ages of the children ranged from seven through fifteen, with an average of 9.6 years. The sample included 110 boys (mean age 10.9) and 40 girls (mean age 8.22), all of whom had reported IQ's in excess of 90.

Knobel's study was conducted over a period of eight months. Dosages of Ritalin ranged from 20 to 40 mg. and were administered twice daily, one after breakfast and one after lunch. He reported that hyperactivity and aggressivity diminished in all children, with marked improvement in 40 percent of the patients. He classified his results as: (a) good improvement, (b) moderate improvement, and (c) no improvement. Sixty children (40 percent) demonstrated a good improvement, 75 (50 percent) showed moderate improvement, and 15 (10 percent) showed no improvement.

Possible Side Effects

The producers of Dexedrine list the following possible side effects from taking Dexedrine: overstimulation, restlessness, insomnia, gastrointestinal disturbances, diarrhea, palpitation, elevation of blood pressure, tremor, sweating, and headache. While adverse reactions resulting from the use of Ritalin and Dexedrine have generally been few, individuals reportedly can differ markedly in their reaction to these drugs.

Subjective Findings

During the course of the 18-month study in Franklin County, a number of subjective observations were made regarding the use of medication on overactive youngsters. These observations did not lend themselves to objective assessment, but were felt to be an important and integral part of the findings of this study.

Many doctors prescribe Ritalin or Dexedrine to be taken during school hours, and frequently teachers give the medication to the child, especially to the younger child. In one instance, a child's medication had been changed without the teacher's knowledge, and the parents were giving the child a much stronger medicine at home while the teacher continued to add to the child's medicinal intake at school. Parents have also been known to give medication indiscriminately by issuing to a child more dosage than prescribed. The teacher, by giving medicine at school, could then increase even more the amount of medicine the child takes.

While most schools have policies regarding the issuance of medicine of any type to children, this policy seems to be violated when it comes to giving medication for overactivity. Ideally it would appear logical for teachers not to involve themselves with giving medication. Certainly if a teacher finds himself in a position in which he is asked to "remind" a child to take his medicine, he should have something in writing giving him permission to do so, and this should be signed by both parents. This would help protect the teacher from any consequences which might arise from his involvement with medicating the overactive child.

Both parents and teachers have a tendency to look upon medication as a cure-all for the child's problems resulting from overactivity. This creates high expectancy levels and consequently disappointment in many cases when these levels are not met by the child. The emphasis placed on medication to help modify overactivity appears to cause both teachers and parents to abandon other approaches to modifying behavior. Also, successful medical intervention with
an overactive child causes a "snowballing" effect: in schools where success has been realized through medical intervention, many more teachers seem prone to refer youngsters for possible medication. When parents see success, they often inform their neighbors. It has been observed that many of these neighbors request that their child receive medical help for his overactivity, hoping to see similar improvement in their child.

The administration as well as the faculty of a given school seemingly has much effect on the number of children being medicated for overactivity within that school. Some schools in Franklin County have far more youngsters on medication than other schools that have comparable numbers of students, and it is suspected that the philosophy of those schools regarding medication for overactivity is largely responsible for this.

Of the 32 children involved in this study, 31 were boys. This seems to parallel the widely accepted idea held by many experts involved with exceptional children that in virtually all areas of exceptionality, boys outnumber girls. The basic reason for this is given as sex-linked, with a rather detailed explanation involving chromosomal combinations being offered as the cause. Some consideration should probably be given to the idea that our society traditionally recognizes boys as being more aggressive and outgoing, and thus possibly fosters more activity on the part of boys than girls.

A final subjective observation: most physicians who treated youngsters in this study prescribed medications at the parents' request after questioning the parents orally regarding their child's behavior. A few asked for a written description of the child's classroom behavior from the teacher. In nearly every case, the physician wanted to see the child in two weeks after the initial medication or earlier if complications arose from taking the medicine. In general, physicians were found to follow up closely on youngsters treated medically for overactivity.

**Discussion**

It is difficult to say whether overactive youngsters should receive medication for their condition. In every instance, parents should make a decision after an accurate observation of the child's behavior has been made in a variety of settings, school and home, and after these findings have been reviewed by the family physician. Professionals should be consulted to help determine whether the cause of the overactive behavior is organically or environmentally based. Whenever possible, alternatives to medication for overactive behavior should be tried, with the use of medication coming after other alternatives have been exhausted.

It does appear that in specific cases where the child's behavior is organically based, medication can produce remarkably good results. There is, however, evidence which strongly suggests the unnecessary medication of youngsters who, in many cases, are simply products of unstructured and undisciplined environments. Only proper diagnosis of individual cases will help to ensure that medication is being properly employed, and even then the answer may not be apparent.

**References**


