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Observation and interpretation of the child dental patient's behavior

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Abstract

The dentist who treats children needs to be proficient at observing and analyzing child behavior. Skill in observation and analysis of child behavior is enhanced by experience, the ability to assess the nonverbal aspects of communication, a knowledge of children's fears and anxieties toward the dental situation, and by the social-cultural and personal aspects of child behavior. The dentist who can successfully integrate the information gained from observed child behavior with the personal, social, and historical information acquired from a parental interview may more accurately predict a child's behavior and then select the best method of managing that behavior during the clinical experience. The information gained by observing child behavior is more likely to be accurate if a systematic technique is used. The dentist should avoid a quick assessment of behavior or the assignment of "everyone knows" interpretations. The analysis of the observed behavior should be consistent with the information and conclusions of the parental interview.

Introduction

Observations of a child's behavior and the subsequent analysis of these observations are important activities to the dentist who treats children. A dentist's accurate interpretation of observed child behavior will work to insure the success of the patient management technique he decides to use for a particular child during the clinical experience.

Success in treating children is directly related to the knowledge a dentist has about children, their behavior, personality needs, and other psychological characteristics.

The more a dentist knows about children, regardless of whether that knowledge was acquired by formal training and study or by actual experience, or both, the greater is the likelihood of success in three important areas related to managing children in the dental operatory. These areas include prediction of the behavior of the child in the clinical situation; successful management of behavioral problems; and in the event of unsuccessfully managed or mismanaged behavioral problems, better ability to explain, rationalize, and cope with the attendant stress and accountability.

The purposes of this paper are to review current concepts in dentistry relative to analysis and prediction of child behavior based upon observational information, to identify areas of information important to understanding the child patient's behavior and to offer a schema and discussion of an information-gathering technique which may facilitate the prediction of child behavior in the clinical setting.

Systematic observation: Research pertinent to dentistry for children

Systematic observation is the art and science of ascertaining and recording observations for the purposes of description or analysis or both. Although systematic observation has not been widely researched in dentistry, the methods of systematic observation have been used to analyze the study of human behavior since the time of Darwin[1] and many research conclusions appear applicable to the dental experience. For example, contemporary research has concluded that skill and accuracy in observation of child behavior is derived through practice.[2-4]

In a dentally-related study, Brockhouse and Pinkham[5] concluded that the ability to make decisions regarding nonverbal communication in child dental patients by dental personnel is related to the amount of experience the individual has in treating children. Other research has noted that the appropriate assessment of nonverbal communication or "body language" is necessary.[6] It has been offered by one author that less than 35% of the social meaning of a situation is transmitted verbally with the rest being transmitted through nonverbal communication.[7]

McTigue and Pinkham[8] have devised a method for observers to quantify the dentally-related play behavior of preschool children such that the data distinguishes children according to three categories of patient behavior. The research method required that the children play in a simulated dental office environment, and quantitated such aspects of behavior as the amount of time the child played with dental instruments, body movement in the playroom, and statements and gestures made to a doll dental patient.

Information categories important to understanding child behavior

Certain information about children is needed to help the dentist analyze a child's behavior and anticipate his behavior when the clinical experience begins. The dental literature is replete in describing (1) the fears or anxieties both usual and unusual to the dental situation, and (2) other factors related to predicting child behavior. These other factors can be classified into a social-cultural category (family, socioeconomic status, maternal anxiety, sibling rank, etc.) and a personal category (age, sex, past dental history, developmental status, tendencies toward emotional stress, neurosis, mental illness, etc.). The dentist whose knowledge of these categories is extensive can expect to increase his understanding of the behavior of his child patients.

Guidelines in observing behavior: distinguishing between fact and interpretation

An observed fact is a meaningful impression of anything seen, heard, smelled, touched, or tasted. One can observe a child's smile or hear a child cry, and in doing so, exercise a basic skill in the observation of human behavior. However, interpreting whether a smile is "happy" or a cry is "fearful" implies something more than direct observation. An assignment of "happy" or "fearful" implies knowledge of the stimulus situation and an interpretation of the smile or crying.

In observation, one must be wary of making "everyone knows" evaluations for what everyone "knows" may influence the observer more than what he actually sees. In order for an observer to overcome the tendency to assign "everyone knows" meanings, it is necessary for him first to **obtain the facts** in the most objective and complete fashion possible. Then the observer can state separately what seems to him to be the meaning of the recorded facts in the light of all attending circumstances.

It is easier to maintain the distinction between fact and the interpretation of the fact if the observer (1) concentrates on making concrete observations, and (2) avoids making interpretations until he is confident that he has gathered as many of the facts as possible.

For instance, if the fact that has been established by the dentist is "Johnny is crying," then a variety of interpretations would seem to be equally valid. The interpretations could be "Johnny must be hurt," or "Johnny must be afraid," or even the more universal statement "Johnny is very upset." Because the fact is not elaborate (even though it is totally accurate), many interpretations are possible. The observation that Johnny is crying simply does not contain enough specific information to make the interpretation anything but a guess. Contrast this situation with the following one.

The fact is as follows:

"Johnny is crying. It is a sobbing cry and there are many tears in his eyes. His mouth is staying open. He is trying to murmur something, but it is hard to understand him with the rubber dam on. Johnny has not cried on his three previous appointments. Today he is crying during this pulpotomy procedure. Johnny was not crying until I entered the pulp."

The interpretation for the above observation is more easily arrived at and probably more appropriate because more information is contained within the recorded observation. The interpretation that the anesthesia was not profound enough to spare Johnny pain and prevent crying is probably correct. Certainly this analysis is much more likely to be correct than was any one of the analyses given for the observation in the first example.

Child observation in the dental office

The dentist is usually afforded little time to observe his child patients carefully for the purpose of predicting their behavior once the clinical procedures are started. However, in some dental offices, the dentist does have the opportunity, between appointments, to observe a child in the reception room.

In other dental offices the dentist may choose for new patients to meet mother and child in either the reception room or a designated interview area (this could be the dental operatory) for the purposes of taking a health history and completing registration forms. Also, many dental offices use an introduction technique for new patients in which a chairside tell-show-do session is held before actual clinical procedures start.

In all of these situations, the few minutes afforded by this activity will allow the dentist some valuable nonclinical observation time. If the dentist is careful and knowledgeable of technique, some valid observations that will help him predict the child's clinical behavior can be made.

As stated before, it is important that a good systematic observational technique be used to gather all the facts before making any interpretation.

For instance, if the dentist approaches the child in the reception room and the child fails to establish eye contact and continues sitting with a bowed head, and the dentist quickly makes an interpretation of this observed behavior, he may conclude that the child is extremely shy and fearful of him, and that the child

may cry at the time of separation from mother. (The conclusion that a child who fails to establish eye contact with a dentist must therefore be fearful of the dentist may seem to be so true that he is likely to forget it is only his hypothesis or assumption.)

In fact, the child may be playing a game, may have just been disciplined by his mother and is pouting, may be resting, reading, etc. These facts might be easily ascertained if the dentist would continue his observation for a short period of time, and not make a quick interpretation of his initial observation.

The interview with the parent should address information that can be integrated into the process whereby the dentist predicts a child's behavior. The interview with the parent is important not only because it may yield information helpful in understanding the child, but it also may make the observation of the child's behavior meaningful. The more the dentist can find out about the child, the more he will understand the observations he is making.[9, 10]

Alpern[11] has suggested two methods that are efficient and useful for the dentist in assessing the child's development status. The first method involves utilization of a questionnaire, and the second method is an interview with the mother to complete an instrument called *the developmental profile.*

The process of integrating observed child behavior information with other information from the parents, and more accurately interpreting and predicting a child's behavior is outlined in Fig. 1.

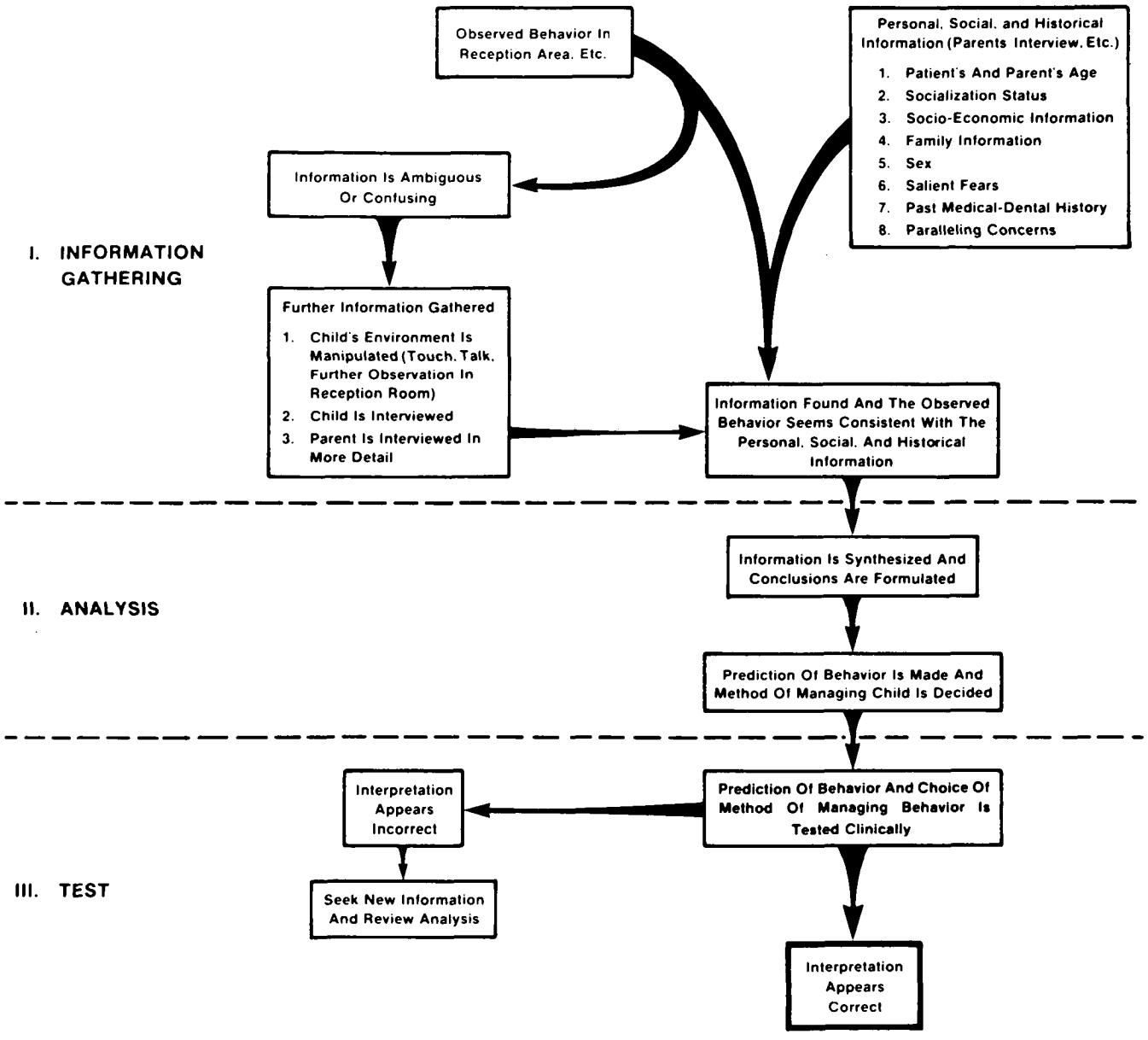

Fig. 1.

EXPLANATION OF SCHEMA

Step I: Information Gathering

In this step the dentist seeks from observation the "bare facts" of behavior. These are usually derived by observation of the child in the reception room or operatory before the actual clinical procedures begin, although other observations (*e.g.,* observation of child in operatory during a sibling's appointment) may be equally or even more valuable.

This step also includes the collection of the important personal, social, and historical information that may be important to predicting behavior.

From the above, the dentist can determine whether the information from the parent's interview and the observation of the child is ambiguous (*e.g.,* mother states that the child is not frightened, yet the child avoids speaking to the staff and is withdrawn in reception room), or if it is consistent. If ambiguous, more information can be sought by further observation or further information gathering.

Step II: Analysis

This step converts the information into conclusions and a prediction of probable patient behavior in the clinic setting. The most appropriate method or methods of managing the child are decided.

Step III: Test

This step involves the actual clinical experience and tests the accuracy of the information, thoroughness of the information, and the predictions and decisions on methods of management made from the information obtained and synthesized in Steps I and II.

EXAMPLE CASE #1

Step I: Personal, social, and historical information

* age 3 years, 0 months female
* only child
* bad teeth (anterior decay; no history of pain)
* parents are probably upper middle class
* no previous dental history
* hospitalized at age 1 for ear infection (tubes inserted)
* well dressed, well groomed
* mother reports no personal fears of dentists
* child doesn't mind getting "check-ups" at the physician's office
* information source—Mother

Observed behavior

Sue is a pretty, normally developed female. Is dressed very neatly. Waves to receptionist. Plays with toys away from Mom. Has noticeable anterior caries. Looks at dentist when he enters room. Says "Hi" when he says "Hi." Makes no reply when dentist says "I will see you soon."

Consistency of information

Information appears to be consistent.

Step II: Information synthesis

Sue is an only child whose chronologic age is at a reasonable time in behavioral development for her to tolerate a first dental appointment.

Although she doesn't seem frightened, her noticeable dental disease is likely to predict a comparably "inappropriate" behavior. (She *knows* something must be done.) The fact that she plays independent of mother and did not cling predicts minimal separation anxiety.

Prediction and mangement decision

Sue will go with the dental assistant from reception room to operatory with no untoward response. She will have concerns about her teeth, so a positive approach about how pretty they can be made to be is appropriate.

Step III: Actual behavior

Sue's behavior rapidly becomes inappropriate when the dental assistant asks her to come back to the operatory. Tells mother "No, no, no, don't make me! Don't make me!" Sits on floor when hand is held by dental assistant. Dental assistant carries child to operatory. Previous evaluation being wrong, dentist returns to mother in office for more information. Child kept in operatory with dental assistant after being calmed with assertive voice control.

New information

Dentist: "Did you think this would happen?"

Mom: "No, because she said she wanted the dentist to look at her teeth."

Dentist: "Do you think she would behave better if you accompanied her to the operatory?"

Mom: "I'm not sure, but I really don't think so."

Dentist: "She doesn't get upset at the physician's office?"

Mom: "No, but then her uncle (father's brother) is her doctor."

Dentist: "Is she very afraid of new faces, people, or places?"

Mom: "She has a hard time with new babysitters or of being left in a room with strange adult company."

Dentist: "The strange adult company . . . how do you handle that?"

Mom: "Just say that they won't hurt you."

Dentist: "What does she say?"

Mom: "Nothing."

Further discussion reveals nothing remarkable.

Revised evaluation

Child is afraid of strangers and maybe new situations. Since physician is an uncle, then the dentist represents the first professional she is having to be left alone with. Mom's presence should help initially. First appointment will be kept short and second appointment will include x-rays, prophy, and fluoride instead of restorative treatment. Will have mother leave during second appointment, but have her leave pocketbook behind to assure child that mom is still present. Will make sure child sees the same dental assistant at all future visits. Will make sure child knows dentist's name and encourage mom to have her talk about her dentist. Could drop a postcard in the mail to her between appointments to help establish friendship.

Actual behavior

First appointment finished with Mom in room. Sue visibly upset but crying is down to a compensating whimper. Finished appointment with a long show, tell, do of the office. Dental assistant walked out to parking lot with child and mother.

Miscellaneous

Second appointment (2 weeks later)

Started without incident. Sue spoke and was encouraged to call dentist by name. Mom left after x-rays taken. Her pocketbook was placed where Sue could see it. Sue reacted well with no noticeable anxiety.

EXAMPLE CASE #2

Step I: Personal, social, and historical information

* age 6 years, 2 months male
* youngest sibling of six
* oldest brother is a poor patient behaviorally
* dad is edentulous
* parents separated recently
* on state paters (welfare patient)
* child is afraid of shots at physician's office
* hospitalized last year; cried on the way and while there, didn't like "old nurse"
* mother reports a broken tooth experience at age 3 (extracted at a dental office)
* dental check-up at age 4; behavior was positive and appropriate
* parent and child are well dressed and groomed
* information source—Mother and previous experience with family

Observed behavior

In reception room, Matt gets a coloring book but returns to sit by mother. Stares at dentist when he greets mother. Takes mother's arm when dentist sits down to take health history. Quiet except for statement "I'll get a train at my next birthday." (Said sternly) . . .Mother's reply "Well, maybe Matt." Makes no reply or eye contact when dentist says "I will see you soon."

Consistency of information

Information seems to be consistent.

Step II: Information synthesis

Matt is the youngest sibling of a separated home. He may be unsure of his and his family's status. Although old enough to act good, his social circumstances, previous bad experience, the influence of an older brother who behaves badly, and fear of hospitalization will predict some inappropriate behavior. The fact that no "outward" untoward behavior occurred in the waiting room moderates the prognosis of inappropriate behavior for the duration of the appointment. Clinging to mother and statement about getting a train predicts where Matt will probably direct his attention. (This conclusion is reinforced by the fact that parents are separated recently.)

Prediction and management decision

Matt will try to reject separation from Mom. He will establish control of himself with some guidance. Is looking for acceptance and will appreciate compliments from staff and dentist. Best not to talk about trains or birthday. Be gentle, patient, but firm.

Step III: Actual behavior

Cried with a whimper when separated. Reluctant to let go of mother but did so within 10 sec of being asked to do so. Walked to operatory slowly. Had to be asked to get in chair. Tolerated examination well but answered all questions with a minimum number of words. Laughed when dentist told him that "a cricket lives in x-ray camera." Warm, but quiet at end of appointment.

Miscellaneous

Next two appointments had no remarkable untoward behavior.

Synopsis

The economic realities and time efficiency restraints facing the dentist today often impose the circumstances when he is

treating a child that untoward inappropriate behaviors arise and he then is left to seek the reason why. This paper urges the dentist to gain a nucleus of information to begin with so that he can suitably predict child behavior. It also urges the dentist to acquire as broad a background as possible in those areas related to child history and knowledge.

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Fluoride Breaks Down in Toothpaste

by Jon Van

Chicago—The longer a toothpaste tube sits on a shelf, the more fluoride it will lose, researchers at the University of Illinois Medical Center have found.

Fluoride—the additive in many brands of toothpaste intended to strengthen tooth enamel and decrease plaque accumulation—is an active chemical that breaks down readily and combines with other substances.

In the first comprehensive test of its kind, Illinois researchers found that various brands of toothpaste showed vast differences in fluoride loss as they aged. One brand less than six months old showed less than a 4% loss; while another, more than two years old, lost more than 60% of its fluoride, they found. The study was conducted by Fernando Galindo, and Gregory Johnson, graduate students in pediatric dentistry at the University of Illinois Medical Center in Chicago.

Dr. Indru Punwani, professor of pediatric dentistry, who guided the study, said that the oldest samples of toothpaste purchased in Chicago for testing were fifteen months old.

Although fluoride amounts varied greatly, the significance of the finding is unknown because there is no agreement as to how much fluoride a toothpaste needs to be effective. Manufacturers usually add 0.01% fluoride in toothpaste.

"We don't know the answers yet." Punwani suggested that manufacturers provide information about shelf-life loss of fluoride on the labels of toothpaste.
—from *Chicago Tribune,* November 24, 1978