Family Context in Pediatric Psychology: A Transactional Perspective

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The degree to which the family is seen as a significant contributor to child health conditions impacts directly on the successful functioning of the pediatric psychologist. A transactional model of family functioning is proposed for pediatric psychology. Development is considered to be the result of a three-part process that starts with child behavior that triggers family interpretation that produces a parental response. Family interpretation is presented as part of a regulatory system that includes family paradigms, family stories, and family rituals. Corresponding to the proposed three-part regulation model, three forms of intervention are discussed: remediation, redefinition, and reeducation. Clinical decision making based on this model is outlined with examples given from different treatment approaches. Implications for the treatment of families in pediatric psychology are discussed.

KEY WORDS: family context; transactional model; clinical decision making.

Pediatric psychologists' treatment of children is often the treatment of families as well. Whether providing consultation to families under the stress of parenting a child with a chronic condition or providing direct services to children with psychosomatic complaints the family is often the most immediate
and effective mediator of change and will be responsible for maintaining changes once the psychologist is no longer involved in treatment of the child. How pediatric psychologists think about families, what they consider the relation between the child’s symptom and the family’s functioning, and at what point the family is engaged in treatment directly influences the functioning of the pediatric psychologist. This paper is offered as a theoretical framework for understanding the family context in pediatric psychology. Hopefully, the model presented will enhance the pediatric psychologists treatment of children.

This emphasis is in line with the concern of health psychology with the role of family support in changing health behaviors (e.g., Baranowski & Nader, 1985) and the role of the family in maintaining illness symptoms (e.g., Jacob & Sielhammer, 1987). Pediatric psychology as a field has conceptualized the family from two broad perspectives: (a) the impact of childhood illnesses on the family and (b) the impact of the family on illness and disease symptoms. In the first instance a normally functioning family must adapt to stressful biological conditions in the child. How family members react to the birth of a handicapped infant (Affleck, McGrade, Allen, & McQueeney, 1985; Drotar, Baskiewicz, Irvin, Kennell, & Klaus, 1975; Roskies, 1972), how family members cope with children with terminal illness (Spinetta & Deasy-Spinetta, 1981; Spinetta, Swarner, & Sheposh, 1981), or how family members respond to the stress of a child with an acute medical condition (Cella, Perry, Poag, Amand & Goodwin, 1988; Melamed & Bush, 1985) are representative of this perspective. The family is considered by the pediatric psychologist to be capable of adequate functioning under normal conditions but may be in need of psychological intervention because of a special biological condition in the child.

The second perspective on family functioning prevalent in pediatric psychology is centered on the role the family plays in contributing to or maintaining a maladaptive biological condition in the child. The family has often been considered the breeding ground for somatic complaints. The classic example of Minuchin’s psychosomatic families highlights this approach (Minuchin et al., 1975). According to Minuchin and colleagues, a child’s physical symptom (e.g., “brittle” diabetes, psychosomatic asthma, or anorexia) is a response to conflict in families that can be described as enmeshed, overprotective, and rigid.

From a family systems perspective the child’s symptom is a resolution of family attempts to avoid conflict and maintain peace in the family. The source of the symptom is moved from the individual taken alone to the family taken together. A family systems perspective emphasizes the role of family dynamics in symptom maintenance. Treatment is aimed at changing maladaptive family interaction patterns. A wide range of somatization disorders have been treated as family system problems (Routh & Ernst, 1984).
The distinction between the impact of the family on illness and the impact of illness on the family may be useful in cataloguing family factors in pediatric psychology; however, this distinction has provided little useful information for diagnosis or intervention. In distinguishing between conditions that may be considered primarily biological in origin or primarily psychological in origin the family is conceptualized as either reacting to or contributing to the child's symptomatology. Yet the disease process is rarely the result of a single factor nor do families function under single operating principles. If the family is considered only as a reactor to the child, there is little room to consider family process or organization as contributors to the child's condition.

It is surprising how sparse the pediatric literature is in regard to empirical evidence connecting family functioning and pediatric illness. There have been only a few attempts to specify organizational aspects of family functioning and its relation to pediatric illness. For example, communication patterns in families with recently diagnosed diabetics have been related to child adaptation (Hauser et al., 1986). This scarcity of research may be due in part to models that consider illness akin to a simple infectious disease process. Our view is that disease is rarely the result of a single cause but a complex interaction of several systems. The systemic properties of the disease process may be directly extended to understanding how the system of the family relates to the child's condition.

DISEASE AND CONTEXT

In its classic form, the medical model assumes that there is a single cause for a single disease (Engel, 1977). Infections, genetic abnormalities, or traumatic incidents are seen as direct causes of medical conditions. However, it is rare that there is a single cause in the majority of diseases. For example, exposure to the chicken pox virus should produce chicken pox. However, if the child has already had the chicken pox, he or she is immune and will show no consequences to the new exposure. Although the necessary virus may be present it is not sufficient for disease expression unless a context exists that can support the disease. Necessary and sufficient conditions for disease expression become even more complex when considering the psychological impact on biological conditions and, conversely, the impact of biological conditions on psychological processes.

Attempts at understanding the role of psychological processes and the course of disease has developed within the framework of identifying particular risk factors that may be associated with higher incidence of disease. The diathesis-stress model (Rosenthal, 1970) has been popular in explaining why certain individuals are more prone to certain health conditions. The vulner-
ability alone is not sufficient to explain a disorder without taking account of the stress in the environment. In adult health psychology, the linking of Type A behavior with heart attacks was seen as evidence that a personality type may cause a heart attack. However, recently it has been demonstrated that the personality type taken alone may not cause the heart attack. A host of contextual factors contribute to the recurrence of heart attacks. In fact, under some conditions Type A individuals may have a lower mortality rate if they survive the heart attack within the first 24 hours (Ragland & Brand, 1988).

Another single cause theory of disorder links stressful job conditions to coronary heart disease. However, when the job is perceived as stressful the prediction is enhanced (LaCroix & Haynes, 1987). Even in mice individual levels of physical risk, such as high cholesterol or high blood pressure, may not predict coronary heart disease as much as the controllability of the condition in which the animals are raised (Kaplan et al., 1983).

The current controversy over the critical components of Type A behavior pattern and the relation to heart disease may be resolved in part by incorporating contextual features such as occupational strain and psychophysiological reactivity along with crucial Type A behaviors (Krantz, Contrada, Hill, & Friedler, 1988). Although there is considerable controversy over the relation between Type A personality and chronic heart disease (Wright, 1988) there does seem to be agreement that the relationship is not a simple one and involves a complex interaction of individual risk factors, biological responsivity, and environmental context (Matthews & Haynes, 1986). A consistent conclusion of epidemiological and observational studies is that those factors considered risk factors for heart disease (e.g., smoking, obesity, Type A behavior pattern, psychophysiological stress) do not operate in isolation and, in fact, are very poor predictors of the occurrence of disease in the individual. In addition, focusing on single personality factors has proven relatively weak in attempts to predict adult behavior from child behavior patterns (Steinberger, 1986).

In pediatric psychology, the case of childhood asthma may be used to illustrate the complex system of personality and illness symptoms. Traditionally asthma has been considered a disease that is affected not only by emotional and personality factors but may also have a neurotic or emotional origin (Pearlman, 1984). If a simple relationship existed between emotional factors and asthmatic attacks then attacks should be preceded by an identifiable emotional arousal. In an extensive series of studies, Creer (1979, 1982) demonstrated that the emotional component of asthmatic attacks may be either a trigger for an attack or a response to the attack triggered by organic allergens such as pollen or dust. In addition, the intermittent nature of asthmatic attacks results in distinct coping styles of parents and children depending
on the cyclicity of the child's attacks (Renne & Creer, 1985). Furthermore, the parents', and not the physicians', evaluation of the seriousness of the child's condition and probable triggers influences compliance to medical regimens and management of the disease (Deaton, 1985; Deaton & Olbrisch, 1987). If there is a strong emotional component to asthma then asthmatic children should be at a higher risk for emotional disturbances, yet there is very little evidence to support this contention (Creer, Harm, & Marion, 1988).

In order to resolve the paradox of whether the cause of illness is in environmental risk factors or individual behavior, a different theory of illness must be developed which takes into account the complex dynamics of disease processes. One such view that has been proposed is the transactional model outlined by Sameroff and Chandler (1975). We hope to demonstrate that this model can be directly applied to understanding illnesses seen in pediatric psychology, particularly as it relates to the family's role in child health problems.

TRANSACTIONAL MODEL

Placing the child's illness within the context of the family calls for a theory of context. The social ecology of Bronfenbrenner (1977) has been useful for describing the nested hierarchy of family and societal contexts (Belsky, 1980). From an ecological perspective, the family and child are part of a larger system including societal influences, socioeconomic factors, and current living conditions. Although an ecological perspective sensitizes us to the complexity of interaction between the child and the family system it has not been used to generate explicit assessment and intervention models for pediatric psychology. One proposal that adds a developmental dimension to the ecological perspective is the transactional model proposed by Sameroff and Chandler (1975).

The transactional model places the child in a dynamic system that is maintained by bidirectional influences between the child's and the family's behavior. One of the more important aspects of the transactional model was the emphasis placed on the effect of the child on the environment, as a complement to the more traditional unidirectional view that only saw the family's effect on the child. The experiences provided by the environment were not independent of the child. The child by his or her previous behavior may have been a strong determinant of current experiences. The child's environment includes not only the proximal environment of interaction between parent and child but also the more distal family and cultural environment in which the child is embedded. A diagram of the transactional model can be seen in Figure 1 (Sameroff, 1987a).
The child's outcome at a point in time \((C_n)\) is neither a function of the initial state of the child \((C_1)\) nor the initial state of the environment \((E_1)\), but a complex function of the interplay of child and environment over time. A number of empirically validated examples of transactional processes in development have been described by Sameroff (1986, 1987b).

A transactional perspective has been recognized as central in understanding health-related issues in the family (Turk & Kerns, 1985). Patterson (1986) and his colleagues (Patterson & Bank, 1989) examined the origins of antisocial behavior in childhood using a transactional model. Pediatric psychologists are often called to consult on cases where the child's behavior is considered "out of hand" by parents and health professionals alike. Patterson argued that the lack of success in controlling the child's behavior may be due in part to a history of negative transactions between parent and child.

In the Patterson model, children normally engage in some proportion of noncompliance activities. If the parents are inept in disciplining their child, they create a context where the child is reinforced for learning a set of coercive behaviors. Parent ineptitude is characterized by a lack of monitoring, harsh discipline, lack of positive reinforcement, and lack of parental involvement with the child. The child develops noncompliant behaviors such as whining, teasing, yelling, and disapproval. These behaviors escalate parental negative coercive responses that promote further child noncompliance eventuallying in high-amplitude aggressive behaviors, including physical attack. The high use of noncompliance with inept parents does not permit the child to learn a set of social strategies that are necessary with peers and in the school. When these aggressive noncompliant children enter the school setting they elicit poor peer acceptance that maintains poor self-esteem and poor academic performance. This constellation of antisocial behavior, poor peer relations, and poor school achievement has been demonstrated by Patterson to unfold in the developmental sequence of transactions described above (see Figure 2). The child's initial noncompliance does not lead directly to antisocial behavior, rather it is the inept parenting response that transactionally
converts age-appropriate expressions of autonomy into a coercive interactive style (Patterson & Bank, 1989).

Transactions have been hypothesized to produce adaptive responses in families with recently diagnosed diabetics (Hauser et al., 1986). Interactions were coded along dimensions of enabling and constraining behaviors while the family was engaged in a discussion about an issue on which they differed. The results of this cross-sectional study revealed significant differences between the families with a diabetic child and families with an acutely ill child. The families with a diabetic child engaged in more enabling interaction patterns, such as focusing, problem solving, and active understanding than the families with an acutely ill child. This pattern was particularly evident in mothers of diabetic children.

Hauser explained these group differences as a transaction between the child's illness and the parents' (particularly the mother's) reaction to the child's needs. From a transactional perspective, the diagnosis of diabetes influences the mother to become more involved with the child and perhaps express more focusing and problem-solving behaviors because she perceives the child as more vulnerable. The child, in turn, responds to this concern by higher levels of focusing, problem solving, and possibly a belief that compliance will alleviate some of the pain of a chronic illness. This pattern is in contrast to the lack of transactions in acutely ill families where there is not the perceived long-term vulnerability of the child. Acutely ill families are less likely to engage in enabling behaviors and less likely to engage in active understanding.

Fig. 2. Transactions leading to antisocial behavior. (Adapted from Patterson, 1986.)
This difference may be due in part to less perceived threat to long-term functioning within the family. It is important to note that the patterns described by Hauser are patterns typical of diabetics under good diabetic control. In families where diabetic control is an issue it is possible that less enabling interaction patterns are evident (Fiese & Mead, 1988). Producing such changes is the goal of a redefinition strategy of transactional intervention described below.

A transactional perspective takes into account the influence of the child on the family and places an emphasis on the ways in which the family and child mutually create a context for disease expression. Thus far we have focused on how the family in general may transact with identifiable conditions in the child. We now turn to an examination of how the family context is organized and how specific components participate in transactional processes.

FAMILY CODE

From an ecological and transactional perspective, as children grow they are embedded in an increasing number of contexts that serve to regulate their development (Sameroff & Fiese, in press-a). It is important to recognize that individual behavior is always constrained by environmental structures, each with their own purposes. To the family is added the school and peer group within an overarching cultural and social system. Society regulates the family’s behavior by statutes and normative rules. This cultural code may include regulations that insure optimal health for the general population. For example, every child is required to be immunized before attending public school and parents are not allowed to abuse their children. The family’s compliance to these regulations is in part a compliance to the cultural code.

As society regulates family and child behavior through various levels of normative consensus in a cultural code, the family regulates the child’s development through a variety of forms that make up the family code. The family code dictates the expected behavior of the child and family in a variety of situations. The family code is constructed in such a way that it incorporates the family’s overall belief system or general view of the world, the family’s definition of itself as distinct from other families, and finally the structure or organization of the family’s daily routines. The family code may be considered a system of family definitions that are used as guidelines for the family’s behavior. Following Reiss (1989) we have found three areas to be useful in constructing the family code: family paradigms, family stories, and family rituals (Sameroff & Fiese, in press-b). Family paradigms are global belief systems that define the social world for the family. Family stories include the transmission of values and define how one family is different than
Family Paradigms

Family paradigms are the most general of the family regulations and the most difficult for family members to articulate. Family paradigms include a set of core assumptions, convictions, or beliefs that each family member holds about its environment (Reiss, 1981, 1989; Reiss, Oliveri, & Curd, 1983). Family paradigms dictate how the family sees "the relative safety and stability of the social world, the degree to which it is experienced as novel or preceded by past experiences, and the conviction that it treats the family as an integrated unit or as a group of unrelated individuals" (Reiss, 1989). The family paradigm regulates how individuals interact not only within the family but with members outside of the family.

The family paradigm is of interest to pediatric psychologists in at least two important areas: (a) how families understand their relation to health professionals in general, and (b) how families understand their child's medical condition. In the first instance, Reiss (1981; Reiss et al., 1983) identified a typology of family paradigms including environment-sensitive and distance-sensitive families. Environment-sensitive families are characterized by a tendency to organize cooperatively and to fully investigate subtleties in social information before coming to a family agreement. Distance-sensitive families, on the other hand, are described as isolated in a private world with little venturing out of the family context for problem solving.

What is particularly interesting is how these family paradigms may be related to how the family reacts to health professionals. In a study of degree
of engagement in psychological treatment of adolescents, Reiss et al. (1983) found that environment-sensitive families with adolescents became more engaged in treatment than distance-sensitive families. In this regard, the importance of the family paradigm dictates, in part, how the family makes use of health professionals involved in their care.

A second aspect of the family paradigm important for pediatric psychologists is how the family paradigm may impact on the family's interaction with a child with a medical condition. There has been increasing interest in how parenting beliefs about children's development, in general (Sameroff & Feil, 1985; Sigel, 1985), and parents' beliefs about their own children's behavior, in specific (Dix, Ruble, Grusec, & Nixon, 1986), may influence parenting. In an extensive review of the literature, Goodnow (1988) outlined the multiple ways in which parenting beliefs may originate and may influence child behavior. Pertinent to the area of pediatric psychology is the family's belief about the cause of their child's medical condition. Affleck and Ten- nen (1988; Affleck et al., 1985) have described how parental beliefs about a child's disability influence parenting behaviors with the child. Mothers who blame others for their child's developmental disability are more likely to report caretaking difficulties and be less sensitive to their child than mothers who believe that they themselves are in part responsible for the child's condition. Affleck and colleagues described a complex set of results which may be explained by the parent's degree of willingness to attribute blame to themselves and associated coping patterns. It is also possible that a family paradigm that sees the world as threatening and blames others for family problems may be less likely to incorporate a disabled child and subsequently perceive the caretaking as more difficult.

Pediatric psychologists should consider how the family paradigm influences the family's view of the child's condition as well as how the family may react to health professionals.

**Family Stories**

A second form of family regulation is family stories. Family stories can be highly articulated and may be passed down from generation to generation. These stories may provide a context in which children learn family roles as well as family values. Although the act of storytelling can be differentiated in function from the content of stories (Reiss, 1989; Sameroff & Fiese, in press-b), it is the content that may be particularly important in pediatric psychology. Zeitlin, Kotkin, and Baker (1982) collected a large number of family stories and proposed that family stories may serve three broad functions: (a) to highlight conspicuous heroes or rogues in the family's history,
(b) to dramatize and conserve significant family transitions and stressful events, and (c) to enshrine and preserve certain family customs. Family stories may prove to be a rich source of family information for the pediatric psychologist. During the routine of clinical interviews, family members often offer a family story as a way of highlighting the ways in which the family responds to stressful conditions. For example, a story of loss may be told following a suicide attempt by a child; a story of survival may be told following the diagnosis of a chronic disease; or a story about the energy of an uncle may be told following a diagnosis of hyperactivity. Although family stories are spontaneously offered during routine clinical interviews and have been the subject of speculation and case studies (Byng-Hall, 1988; Carlson, 1981), they have not been the focus of controlled studies. A fruitful direction for future study may be to investigate how family stories provide family regulation. Such analyses may be particularly important in those illnesses where there is a strong generational component such as hereditary diseases (e.g., diabetes, asthma, or coronary heart disease) or high risk conditions that tend to recur across generations such as adolescent pregnancy.

Family stories may be based on the recounting of actual events as a means of transmitting values, assigning roles, and preserving family customs. Although a grain of truth is probably present in most family stories, they may become distorted, at which time family myths develop.

**Myths.** Family myths are beliefs that go unchallenged in spite of reality (Lewis & Beavers, 1976). For example a well-educated scientist may hold onto a family myth that his sister’s tuberculosis was caused by “bad water” when she went away to college (Zeitlin et al., 1982). Myths may have a traumatic origin as well as strong affective component (Kramer, 1985). Family myths are not open for discussion nor are they readily recognized as distortions (Ferreira, 1963). Some family myths help to regulate role definitions. For example, a traditional family may consider females as unable to handle professional responsibilities of the work world despite the fact that they are able to organize a busy household. Family myths may serve a regulatory function through processes like role inflation. Subtle aspects of a particular role may become inflated and incorporated into the myth. For example, parents of a handicapped child may believe that the child is also cognitively handicapped despite examples of the child’s intelligent behavior. A myth develops that casts the child in a “handicapped” role that encompasses behavior outside of physical limitation. In the same context, another family may create a myth that their mentally retarded child is unimpaired because of a bright-eyed look (Pollner & McDonald-Wilker, 1985; Roskies, 1972). Family myths are important in pediatric psychology because they may dictate a family’s behavior in managing diseases. For example, the decision for independent management of the diabetic regimen is frequently based on the child’s age.
rather than behavior (Ingersoll, Orr, Herrold, & Golden, 1986). A myth develops within the family that responsible management is in accordance with age and not the individual development of the child. Family myths may have detrimental effects in that they are rarely modified by the behavior of the targeted individuals.

**Family Rituals**

A third form of family regulation is family rituals. Family rituals are the most clearly self-aware of the family regulatory forms (Bossard & Boll, 1950). Rituals are practiced by the whole family and frequently documented. Rituals may regulate role definition in the context of family routines and activities (Wolin & Bennett, 1984). For example, at Thanksgiving the family member who sits at the head of the table and carves the turkey may be seen as the head of the clan. In order to participate in the ritual each family member must conform to the specific characteristics of the role.

Family rituals may provide a buffer against stressful situations in the family and protect family members from disruptive influences of other family members. Bennett, Wolin, Reiss, and Teitelbaum (1987) have demonstrated that families of alcoholics who are able to maintain distinctive family rituals at dinnertime are less likely to transmit alcoholism to the next generation. In a similar vein, families with diabetic children who maintain clear routines and regularly engage in social and recreational family activities have fewer behavioral problems than families that do not maintain regular routines (Wertlieb, Hauser, & Jacobson, 1986). In addition family organization may also be predictive of perceived competence in adolescent diabetics (Hauser, Jacobson, Wertlieb, Brink, & Wentworth, 1985).

**REGULATIONS**

The description of the family code presented above outlines different aspects of family life that may contribute to disturbances in pediatric populations. The particular aspect of a family that is disrupted may call for a different form of intervention. The forms of family practice are directed at regulating many aspects of the child's development. We have found it helpful to classify regulations into categories based on the duration of their consequences.

The longest time cycle is associated with macroregulations that are a part of a culture's and family's developmental agenda for the child. The developmental agenda is a series of points in time when the environment is restructured to provide different experiences to the child. Age of weaning,
toilet-training, schooling, initiation rites, and marriage are coded differently in each culture, but provide the basis for socialization. Macroregulations set the guidelines for the family in terms of what is expected for children in general.

On a more repetitive and shorter time base are miniregulations that include the care-giving activities of the child's family. Such activities are feeding children when they are hungry, changing diapers when they are wet, keeping children warm, and maintaining discipline.

On the shortest time frame are microregulations that refer to the momentary interactions between child and care-giver that others have referred to as "behavioral synchrony" or "attunement" (Field, 1979; Stern, 1977) and are generally not consciously determined actions.

These three sources of regulation operate predominately at different levels of the developmental system. Within the cultural code, macroregulations are the modal form of regulations. Statutes, customs, mores, and fashions are passed down to caretaking members of society to aid in regulating the child's socialization and educational development. Macroregulations are known to most members of society and are rarely the source of disturbances in healthy families.

Miniregulations are the routines and caretaking practices the family develops in interaction with the cultural code. This form of regulation includes aspects of family stories, myths, and rituals that aid in daily care of the child. The relation between cultural macroregulations and the family miniregulations may be harmonious or disturbed. Disturbances may arise when the family's caretaking routines do not fit with the cultural code, as when the family is too severe in its punishment of the child or too lax in letting children become disturbers of the peace. Disturbances may also arise when the family code conflicts with the individual parent's regulatory code as when a parent may be too depressed or too busy earning a living to engage in appropriate child-rearing.

The individual behavior of the parent is constrained by microregulations that generally operate out of awareness of the individuals. The unique style that each individual brings to the family code aids in defining the individual characteristics of parents and children. Disturbances may arise when the individual characteristics of the parents or children do not fit with the family code or the family code cannot incorporate an unique aspect of the child.

MODES OF PEDIATRIC INTERVENTION

Based on the model proposed, we would like to outline how the family code and regulation model interact and how this model would facilitate in-
tervention and treatment programs within a transactional framework. In a previous paper we described how the cultural, family, and individual codes interface with the macro-, mini-, and microregulations and suggested various forms of intervention in infancy and early childhood (Sameroff & Fiese, in press-a). Within the scope of this paper we would like to outline primarily interventions targeted for families with caretaking disruptions.

Each step in development is considered the result of a three-part process. The first part is the behavior of the child that triggers environmental response. This trigger could be as simple as a cry or as complex as a college grade report. The second part is the environmental interpretation of the child's behavior. In the case of the cry, the interpretation could be that the child is hungry or that the child is angry. In the case of college grades, the interpretation could be that the student is outstanding or flunking. The third part is the change in experience given the child after the interpretation is made. In the case of the cry, the response to one interpretation might be feeding, but the response to the other might be punishment. In the case of the college student, the response to both kinds of grades report might be to free the student from attending classes, but in one case the mechanism might be dismissal to the work force whereas in the other it might be admission to an honors program of independent study.

The intervention strategies suggested are targeted to one of the three parts described above for developmental transactions. They are aimed at improving parent-child interaction by (a) changing the child's triggering behavior, (b) changing the parent's interpretation of the child's behavior, or (c) changing the parent's repertoire of responses to the child. For simplicity these forms of intervention have been labeled remediation, redefinition, and reeducation (Sameroff, 1987a). A schematic representation of the correspondence between the three intervention strategies and the three-part transactional model is presented in Figure 4.

![Figure 4. Three R's of intervention in a transactional model.](image-url)
Remediation

The strategy of remediation is the intervention aimed at changing the child. This strategy is based on the possibility that the child's condition can be altered and that routine caretaking may proceed once the child's condition has been changed. Frequently, this form of intervention involves repairing an impairment in the child's biological condition. Left alone, this condition would compromise the child's health and the family's ability to raise the child. The case of providing supplemental stimulation to premature infants is a case in point.

Feeding difficulties in premature infants present the pediatric psychologist with a particular challenge in dealing with parents. Initially, feedings are regulated through nasogastric tubes which may prevent the infant from developing normal sucking responses. In order for the family to better care for the child, a more normative feeding context must occur. Bernbaum, Peneira, Watkins, and Peckham (1983) have demonstrated that by pairing nonnutritive sucking during gavage feedings, premature infants gained weight more rapidly than infants who did not receive oral stimulation. The orally stimulated infants were discharged from the hospital sooner and were able to normalize their feeding patterns earlier and may have had fewer discrepant effects on their parents. Als et al., (1986) have demonstrated that individualized treatment of the premature infant is associated with higher degrees of social turn-taking, interactional synchrony, and overall quality of the interaction with their mothers during a free play session at 9 months of age. The remediation of the child as a neonate may have facilitated the parents' sensitivity in interacting with their child at a later age. In this regard, even though an intervention was targeted for the child it may have had positive effects on the family as a whole. An intervention administered by an oral-motor stimulation expert may actually be seen as part of the family treatment team.

There are other examples of altering the child's condition which may have an impact on the family functioning such as prescribing psychostimulants for hyperactive children which may have a positive impact on parenting interactions (Barkley, 1988).

Redefinition

Whereas remediation is indicated when the child's condition can be altered with subsequent effects on the parents, redefinition is indicated when the child's individual behavior cannot be altered and does not fit within the expectations of the family code. Occasionally the child is not incorporated into the family system due to some physical condition. For example, parents
of handicapped children may engage in parenting activities based on their expectations rather than on the child's behavior (Maccoby & Martin, 1983; Minde, Brown, & Whitelaw, 1981). In this case, the family code includes only responses to normal developmental milestones regardless of the child's condition. Redefinition efforts are then directed towards expanding the family's code to include responses to a slower rate or different form of development.

Family rituals might have to be redefined in the case of children with chronic illness. A physically active family may have to redefine roles and routines to allow a child with cystic fibrosis to participate in family routines (Bronheim, 1978).

The need to redefine the child for the family occurs frequently when the child's condition does not fit readily into the family code. Redefinition may also be necessary when the parent's past parenting experiences impact on the child. For example, stories of health and illness in the parent's family may influence current caretaking practices. The family's beliefs about health-related behaviors may be passed down through the generations and have a significant impact on the child's overall health status (e.g., Epstein, Wing, Koeske, & Valoski, 1986). Family health beliefs also are related to compliance with medical regimens (Deaton & Olbrisch, 1987) and the degree to which parents will engage in preventive health measures (Becker et al., 1978).

Redefinition may require the alteration or elimination of family myths. In the case of diabetic adolescents, parents may base expectations of responsibility for independent management on age rather than on the child's behavior. The child may then interpret the parents' encouragement of independence as rejection and poor diabetic management results (Fiese & Mead, 1988). Overprotection or underprotection in diabetic families may result from myths surrounding the child's ability to manage their diabetes (Johnson, 1988; Parker, 1983).

The strategy of redefinition is indicated when parents do not admit the child into their caretaking system. Redefinition is a reasonable strategy when the parents know the cultural code and have adequate child-raising skills. However, in cases where the parents do not know the code or have inadequate skills, a third form of intervention is indicated: reeducation.

**Reeducation**

Reeducation is often the first line of intervention in families with children with illness. Educating families about diabetic regimens, asthmatic controls, breathing routines in cystic fibrosis, all involve learning a new set of routines and skills. Some degree of reeducation is necessary for any family with a child with a given condition. Educational programs have been demon-
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strated to be effective in early stages of disease acceptance and minimize family disruption (Johnson, 1988).

The effectiveness of educating parents in the treatment of obesity has been demonstrated in numerous studies (e.g., Epstein, 1985; Epstein, Wing, Koeske, Andrasik, & Ossip, 1981). Education efforts directed towards parents may have a positive effect on the child's weight loss particularly when it is paired with active problem solving as well as dietary information (Graves, Meyers, & Clark, 1988).

**CLINICAL DECISION MAKING**

The three transactional intervention strategies outlined above may be summarized in a decision tree aimed at aiding families of children with illnesses (see Figure 5). In most cases, the child is presented as having a problem. An initial question to ask is whether the child is treatable; that is, does the child have an identifiable condition that is subject to direct treatment so that the family is better able to care for the child. Examples of such treatment are providing supplemental stimulation to a premature infant for better feeding behavior, or prescribing medication for a hyperactive child. If the answer is yes, remediation is then indicated. Remediation is often in the purview of medical professionals such as pediatricians, occupational therapists, physical therapists, and nurses. Once the child's condition has been remediated there may be little continued disruption in the family.

If, however, the child's condition is not alterable a second set of questions must be asked. Is the problem that the parents do not realize that they have the requisite knowledge to care for their child? If the parents have the

![Figure 5. Outline for clinical decision making.](http://jpepsy.oxfordjournals.org/Downloaded_from_at_Masaryk_University_on_March_2_2016)
requisite skills to care for a child whose condition cannot be directly altered, then a second form of intervention is indicated: redefinition. Redefinition is typically carried out in the context of the family by psychologists and other health professionals.

If special skills are needed to care for the ill child that are not in the parent’s repertoire, reeducation would be the necessary intervention. Support groups of families with similar problems, educational seminars, or medical regimen training may be carried out by nurse practitioners, mental health professionals, or developmental specialists.

We have presented these forms of intervention as theoretically distinct from each other. It is possible in many cases that more than one of the approaches may be necessary. For example, as an adolescent mother is reeducated about caretaking behaviors it may be necessary at a later time to redefine her relationship with her child as she becomes a more competent parent. Even when an intervention is focused in one area, a transaction may also occur that calls for a change in intervention focus. Future research should be directed in this area.

HEALTHY FAMILIES

One of the requirements of the transactional model of intervention is to take a more dynamic approach to the family and rely less on single explanations of disease processes. From a transactional perspective neither the family nor the child is to “blame” for the child’s condition. Rather, a current condition is the result of a series of transactions between the child’s behavior and the family regulatory code during which parents and child tried to reach an adaptive state of interaction.

Given a systematic assessment procedure different members of the medical community can be called upon to provide services at the appropriate level for families in need. It is also helpful for families to see that parts of their family code may be functioning adequately, but specific aspects may need to be adjusted for particular conditions. By seeking strengths within the family, the burden of blame need no longer rest solely on individual family members. The area of pediatric psychology demands a complex view of families and health processes. We hope that the transactional model proposed here will aid in understanding how the family context contributes to health processes in pediatric populations.

REFERENCES


