A DEVELOPMENTAL APPROACH TO BOWEL AND BLADDER CONTROL

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ABSTRACT

A child's attempts to master independent bowel and bladder control is a major developmental milestone that can trigger dangerous or even lethal abuse. The beliefs and understanding about infant capabilities and toilet training practice have changed over the last 40 years, following cultural trends and recommendations of child care experts which, literature concludes, is controversial at best. This article represents a comprehensive review of lay and professional literature providing contradictory information about the toilet training process. A model which includes recognition of the developmental implications of bowel and bladder control is explicated.

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INTRODUCTION

Professional nursing uniquely focuses on health education and prevention of illness. Nurses are often asked for information and guidance regarding toilet training and are in a position to intervene during this potentially stressful time for parents and their children. In fact, a proactive approach to the development of bowel and bladder control may decrease the need for later intervention and prevent the stress associated with it.

This paper describes the problems associated with toilet training, particularly physical and emotional abuse, current approaches to toilet training and suggestions for a different way to view the process of the development of bowel and bladder control.

REVIEW OF THE LITERATURE

Toilet Training as a Trigger for Child Abuse

Over 25 years have passed since the phrase "the battered child" was coined in hopes of bringing attention to the pain of abused and neglected children. In 1990, 2.5 million child abuse cases were reported to the National Committee for the Prevention of Child Abuse (Child Help, 1992). Many reasons given for the abuse of children are couched in terms of parental rights or teaching the child. Schmitt (1987) identified physical abuse as associated with seven developmentally-salient child problems that present difficulties to parents. These problems include colic, awakening at night, separation anxiety, normal exploratory behavior, normal negativism, normal poor appetite, and toilet

training resistance. Thus, every toddler whose parent is not familiar with the normal growth and development of children or methods of facilitating bowel and bladder control, is potentially at risk for abuse. "For the child living in a high-risk family, these innocent acts can trigger dangerous or even deadly abuse" (Schmitt, 1987 p. 421).

In fact, soiling is often a precipitating incident for child abuse in this country (Kemp, 1980). Schmitt (1987) identified toilet-training as one of two behaviors (the other is colic) most commonly associated with fatal abuse. According to the National Incident Study (NIS), "children, zero to three, are more likely than any other group to be seriously injured or killed through maltreatment. In the NIS, they make up 74 percent of the fatalities (Kemp, 1980, p.100). Recently, Child Help USA (1992) reported that the average age for child abuse fatalities was 2.6 years of age. This grim statistic is consistent with toilet training as a probable trigger for abuse.

Pattern of Abuse Related to Toilet-Training

A particular pattern of injury seems to attend abuse triggered around issues of bowel and bladder control. Essentially, the pattern includes burns and fractures. Burns are experienced from the use of hot water to cleanse and/or heat to dry the offending child. "As in other forms of abuse, tap-water scalds often arise when a socially and emotionally isolated and stressed caretaker reacts to what is viewed as child misbehavior. He exposes the child to hot

water as punishment. Such episodes are often related to stool and toilet training" (Kemp, 1980, p. 150).

Numerous cases of such burns are found in the literature. Three very typical scenarios were described by Kemp (1980). In one description, burns were present on the buttocks of a child who was forced to sit on a hot steamed radiator to dry his wet pants. Another small boy was found with numerous healing and healed abrasions and contusions, superimposed on a symmetrical pattern-burn scar on the buttocks, resulting from forcing the child to sit on a hot gas plate in his basement for soiling his diaper; he died as a result of his abuse. In another case, a 28-month-old soiled her diapers and her father rinsed her buttocks under running hot tap-water. She sustained 12 percent first and second degree burns on the buttocks, perineum, and left thigh. It is more difficult to determine the number of broken bones or concussions that are a result of the toilet-training process because the abusers withhold incriminating evidence. The literature does, however, often refer to cases that do point directly to toilet training triggers. For example, Kemp (1980) reported that one father freely admitted breaking the arm of his two-year-old daughter for soiling.

Emotional abuse is difficult to measure, but of concern is the use of shame to control the child's toiletting behavior. Information reported by Kemp and Helfer (1972) and Hauck (1988) is congruent with reports from nurses who have observed parents use of shaming measures with a child for errors in the toiletting process. These include: parents tying wet diapers around the child's

neck for an entire day; leaving soiled clothing on the child all day; the child being told to leave because he "stinks"; forcing the child to sit on the potty chair for long periods of time; and shaming or degrading the child at family or public gatherings.

The pattern and severity of these documented physically and emotionally abusive responses on the part of parents in their efforts to "toilet-train" illustrate the control issue embedded in the process. Further, they support the point that it is not sufficient for nurses to be alert to the consequences of abuse and intervene at that time. Rather, proactive efforts must be made to teach parents about toiletting in order to prevent such abusive control measures with the child. Children and their parents are frequently seen by the clinic or office nurse, pediatric nurse practitioner, family nurse practitioner, school nurse, or emergency room nurse. Professional nurses in these roles have the opportunity to be able to decrease toilet-training as a trigger for abuse by providing developmental information and support to caregivers of children at risk.

Sociocultural History of "Toilet Training"

Clearly, many parents perceive bowel and bladder control as "training." Children are viewed as possessing, in this regard, a willfulness not to comply and needing to be controlled or punished in the face of noncompliance. Educating parents to the contrary is impeded by the information available on bowel and bladder development which, at best, is controversial.

The achievement of bowel and bladder control is a developmental process through which every human being must progress, just as they progress through the development of communication and language as well as walking and running on two legs. The study of the anatomy, physiology, and neurological development of human beings tells us that these three areas require a neurological maturation and environmental facilitation to allow normal development and mastery of each of these tasks. A child unable to hear sound or that is isolated and not spoken to, will have a delay in the development of language. If a child is always kept in a walker or a crib, his walking skills will be delayed. Thus, the social environment can impede or facilitate the normal physical developmental processes.

However, in our western culture, we practice the concept of waiting until children tell us they are "ready to be toilet trained." This is distinctly in contrast to our facilitation of the normal processes of language acquisition and mobility. What if we did not speak to children until they indicated "readiness" to talk? What if we kept them confined in a small area until they indicated "readiness" to walk? Further, our trajectory for the child's completion of the development of bowel and bladder is from the time "they are ready to be toilet trained" to age two and a half to three (if entrance to preschool is desired) whereas, by contrast, our trajectory for the development of language and walking is more in concert with the physical and neurological process.

The language development process is recognized and facilitated with the first recognizable consonant sounds "d" & "m" (dada & mama), building from a few words to complex sentences. Parents react with positive assistance during the normal 3-year-old stuttering and the 4-to 6-year-old use of the "w" sound instead of "r" (wabbit). Similarly, parents anticipate that, although the 18-month-old can walk, he/she is unsteady and they choose a flat, stable environment for him/her to negotiate. As the toddler progresses, parents continue facilitation of his/her developing muscles and nerves with an awareness of the need to assist during changes of terrain or speed. Nor is the 4-or 5-year-old expected to keep up with his/her 7-or 8-year-old sibling, because parents understand that his/her muscles are not fully developed. Just as we anticipate and facilitate these developmental tasks, should we not do likewise for the development of bowel and bladder control?

Cross-cultural studies and reports help to clarify our cultural norms in this regard. Numerous articles and studies on child rearing practices in European countries and the United States consistently conclude that rigid or systematic toilet training is generally ineffective and may, in fact, lead to later emotional maladjustment (Hauck, 1988). Exceptions entail starting the "training" after the child is 18 months of age, with investigators often recommending waiting until the child is two or two-and-a-half years of age, especially for boys (Brazelton, 1962; Salk, 1972; Showers, 1989; Largo & Stutzle, 1977). Conversely, there are studies that report successful attempts, without untoward consequences, of

infants being trained to signal their needs at about one year of age or earlier (Smeets et al., Berk, et al., 1990; deVries & deVries, 1977; Largo & Stutzle, 1977).

For example, deVries & deVries (1977) reported on the toilet-training procedures of an East African Digo culture. Their observational study found that children usually established night and day dryness by five or six months of age. This was accomplished by a maternal sensitive responsiveness to signals by the infant, such as cries, grunts, and facial grimaces. They found that the Digo mothers had close physical contact with the infant for the first two months, responding to their earliest cues for the need for excretion of body waste. After the first two months, the close care of the infant would be given to an older sibling, who would be expected to continue the sensitive responsiveness to the infant cues. This responsibility extended to the point that the care provider would be punished if the child's cues were not attended to. In this culture, the infants were allowed to excrete wherever their cues were noted. As they grew older, at approximately age one, they were taken further from the house for their elimination. By the age of two or three, they were expected to toddle to an accepted ditch to eliminate their waste. At an older age, 3 to 5 years, they were expected to move to the outer edges of the camp and excrete their waste as the adults did. It was, however, the responsibility of the child care provider to see that this was facilitated and ultimately accomplished.

Such sensitive responsiveness can be utilized by mothers in our own culture to facilitate their children's bowel and bladder control. Kenyon (1945) asserted that, at three months, the mother would detect the approximate hour her infant would have a bowel movement. At nine months of age, the child's rhythm was expected to be established and the mother would be able to tell, by the child's cues, at what hour the bowel movements would occur and when she/he would urinate. At these times, the child could be placed over a chamber to urinate or defecate. Smeets, et al. (1985) demonstrated that infants could be taught to use the potty within the first year of life, even before they could walk. This was accomplished by their care-providers, mothers in this instance, attuning to their cues and teaching the children to signal when they needed to expel their body waste.

It is clearly evident from these accounts that children can develop bowel and bladder control in a manner similar to how they develop other developmental competencies such as walking and talking: through maternal sensitive responsiveness to her child's cues and emerging skills. How, then, did we come to have such a "training" orientation imbedded in our society's childrearing patterns?

A review of the literature points to the origins of such an approach as perhaps resting in the post-World War I era and the new behaviorist school in psychology which encouraged habitual training of infants. In 1932, the U.S. government published infant care information that instructed mothers to begin

toilet-training the newborn immediately and to finish at 6-8 months of age. This was based on the new concepts of "infant trainability." Both positive and negative measures of reinforcement were used to train the child. M & M candy was a common reward, while built in restraints attached to potty chairs were used to keep the child on the potty chair until he/she was successful.

These notions of "infant trainability" persisted in the professional and lay literature with little modification until Brazelton's work in the 60's. Brazelton (1962) conducted a comprehensive study of toiletting of 1,170 children by self-report from middle-class western mothers, over a ten-year period, and demonstrated the success of a child-oriented approach to toilet training. In contrast to a "training" approach, he encouraged an unpressured approach. In the 60's, sphincter control by age two to three years was considered strictly a physical developmental task. Brazelton's recommendations are, by-in-large, recommended by most pediatric nurses, nurse practitioners, and physicians today. Unfortunately, this has been interpreted as a recommendation to ignore all cues until this age rather than to decrease the pressure to train.

Influences of a Changing Social Context

Several social forces currently converge to influence and confuse parents about when to train a child for bowel and bladder control and how. First, in terms of when to begin, several sources recommend waiting until the child is age two and is showing signs of readiness or is asking questions about the toiletting process (Brazelton, 1982; Dodson, 1971; Dodson, 1978; Gibson, 1984;

Provence, 1883; Ross Laboratories, 1986; Rothenberg et al, 1981; Smith, 1977). Other literature describes a "how to toilet train in one day" method, or "how to steps" in training your child when you decide your child is ready (Azrin & Foxx, 1976; Provence, 1983; Rothenberg et al, 1981). These recommendations are consistent with our expectations for toiletting performance.

Recall that, if we were a member of the Digo African culture, a child could signal us when he needed to urinate or defecate by two months of age and thereby be considered as having attained bowel and bladder control. By contrast, in our western culture, a child must be able to go into a bathroom, take down his/her clothes, sit on the potty chair, eliminate the waste products, wipe his/her bottom, redress, and wash and dry his/her hands in order to be considered to have attained such control. The difference in these descriptions of what bowel and bladder control entails points up the discrepancies in expectations for when a child is able to actively engage in the toiletting process.

In conjunction with such expectations for performance, constraints on the caregiver's available time and circumstances for commitment to this process also exist. The Digo mother is with her infant 24 hours a day until age two months, the infant wears no clothes, there is no bathroom, and it is acceptable and practical for the child to eliminate in response to the urge. The Western caregiver, in contrast, often works away from home several hours a day and has other responsibilities, e.g. grocery shopping and house cleaning, that do

not afford the constant, intimate contact with her child necessary to be able to observe the early cues.

Further, the actual labor involved in diapering has diminished considerably with the introduction of automatic washing machines and dryers, as well as disposable diapers. The care provider's role and the modern conveniences have decreased the need, if not the desire, for children to be "toilet trained" early. On the other hand, there exists a pressure for earlier toilet training arising out of the numbers of young children and infants in child care settings and preschools. These settings control a great deal of the socialization around toiletting. A new concern, however, is the rising public health concern of acute infectious diarrhea and hepatitis A in day care centers (Berk et al., 1990). Berk et al. concluded from their review of literature that earlier toilet training practices may be recommended in order to deal with this public health concern. Hence, one can anticipate greater pressure for earlier toilet training which is inconsistent with the expectations for how it is achieved.

Environmental concerns may further encourage the earlier development of bowel and bladder control. Much is being discussed and proposed regarding the discontinuation of disposable diapers. Although we still have ready access to washing machines and dryers, dual career parents will not be encouraged by the time consuming prospect of having to take care of soiled diapers. Rather, they are used to having a clean, deodorized, disposable diaper quickly providing a clean removal of the child's waste products. Again, this force for

earlier toiletting control runs counter to the performance expectations we hold for toddlers.

PROPOSED PRACTICE MODEL

Role of the Nurse Practitioner

As practitioners, it is important to assess our contribution to how this particular developmental task is facilitated in our society. At the least, we must look at our contribution in terms of preventing the child abuse associated with this developmental task. When we are asked by parents or other child care providers how they might toilet-train their children, we must address several important issues: physiological development, personality development, facilitating responsiveness to cues, modeling, and managing the environment to facilitate bowel and bladder control over time.

Physiological Development. Sources on the physiology of the micturition cycle reveal that the bladder is an elastic viscus with an intricate organization of smooth muscle, blood vessels, and connective tissue. The bladder wall is composed of detrusor muscle, which merges into the three (internal, intrinsic and external) sphincter muscles at the bladder neck. When the bladder is empty, the sphincter systems are contracted. Filling of the bladder stretches the wall of the bladder causing the bladder neck to descend, resulting in reflexive contraction of the detrusor muscle and relaxation of the sphincter muscles, allowing emptying of its waste material. Conscious control of micturition is possible only if the nerves supplying the bladder and urethra, the

projection tracts of the cord and brain, and the motor area of the cerebrum are all intact (Berk et al., 1990). As we prescribe methods of obtaining bowel and bladder control, it is paramount that we understand and be able to articulate the normal growth and development process in relation to the neurological contribution of bowel and bladder control.

Our explaining that the neurological development of children proceeds "from the head down and the medial to the lateral" may make the development more easily grasped by parents. We are aware that the child must first learn to control his/her head and then progress down the body systems to the point at which she/he begins to scoot, crawl and creep, and eventually walk. Parents easily understand that a child must first develop control of the arms, hands and fingers before being able to feed themselves. Similarly, they realize children must develop control of the legs, ankles, and toes before they are successfully able to walk. The same process holds for the development of the neurological connections that make it possible for the child to be able to attain bowel and bladder control. They must first feel the sensation to void or defecate, postpone the action, and then voluntarily release the necessary muscles to rid their body of the waste material.

Studies have shown that infants can learn to associate positions or sound to their urge to release the pressure from a full bladder or rectum (deVries & deVries, 1977; Smeets et al., 1985). Berk et al. (1990) reported that radiologic studies show that most children do not develop an anatomically

mature bladder base plate or an anatomically mature position of the neck of the bladder until 4 years of age. Although he concluded that the lag between bladder control and maturity needs further research, he postulated that perhaps cognitive and behavioral mastery can compensate for lagging physical maturation. Parents then must be taught that cognitive and behavioral mastery can allow for bowel and bladder control achievement before full maturation of the anatomically mature position of the neck of the bladder is attained, facilitating the understanding that accidents can naturally occur until 4 years of age.

Personality Development. In the Western culture, the toilet training process usually occurs at two years of age, during the child's development of separation and individuation. This is a period during which the child begins to express autonomy and is developing a sense of self but with little internalization of impulse control (Sroufe & Rutter, 1985). To begin facilitating bowel and bladder control at this time may be setting up a conflict between parent and child, precipitating a control issue with the child and frustrating the parents. This means that, in developing bowel and bladder control, the child needs to assert her/his autonomy may be manifest in refusing to sit on the potty chair, saying "no" when asked if they have to go potty and immediately soiling their pants, or hiding while urinating or defecating.

First, practitioners must prepare parents for such manifestations of autonomy and urge them to avoid shaming the child's developing sense of self

while teaching appropriate behavior. Second, given the child's need to assert him/herself in these ways, the parents must be instructed to alter their expectations for bowel and bladder control, especially in the face of the time constraints that exist in dual career and single-parent households. Toiletting mishaps must be expected and, realistically, time should be budgeted to allow for them.

Helping parents or care providers understand that their role is to facilitate this developmental process, as they do the development of language and walking, may decrease a need to control and "successfully complete" toilet training. The child then may be able to find his own way, method, and time frame to work toward control of his bowel and bladder. A natural, self-directed process would allow the child to develop bowel and bladder control in concert with his/her developing autonomy and progressive separation. The harm to his/her self-esteem that often results from toiletting failures during this developmental process can be avoided.

Facilitating Responsiveness to Cues. When discussing the toiletting process with parents, we can equate it with the development of language and walking. Although we are not often asked about how to develop a child's language, we encourage parents to talk to their children often -- using correct language, describing things, naming things-- and to read to their children, thereby encouraging the parent to facilitate the language and communication development of the child. Similarly, we encourage parents to allow infants time

on the floor in a safe and open space to explore their environment and exercise their muscles. As the child approaches crawling, standing, and walking, we instruct parents in ways to facilitate the developmental tasks that we expect the child will soon be initiating. These skills are heralded not only by professionals asking for a report about them but also by the parent sharing this information with relatives and friends (often even recorded on videotapes). Unfortunately, such attention is not given to the signals of the development of the task of bowel and bladder control.

If our focus with parents was more directed at facilitation of the bowel and bladder control process, as it is for language development and walking, we could reverse this situation. Health care providers can ask when the parents noticed the first time the child grimaced or grunted when beginning to excrete their waste products, or ask them to describe the child's cessation of activity when elimination is occurring. If we begin asking the parent of a two-week old child if they had noted when the child was having a bowel movement or was urinating, suggested cues for them to notice, and then followed-up this discussion on subsequent visits, parents could be stimulated to recognize the cues the child is giving and think about their observations. In time, the parents could verbally label the signals for the child, teach the child the expected outcome, and even reward the child for such signaling. If we alert parents to recognition of bowel and bladder control cues, the parent can, in turn, come to value the signs of this development.

Modeling of Behavior. Modeling is another useful facilitator of this development task that parents can be instructed to use. As the parents themselves are using the bathroom, often the child will crawl or toddle into their environment and stop to listen to the sound the parent is making. This is an opportunity for the parent to acknowledge and describe the process in some way, such as "yes, mommy is urinating or wetting" or "Yes, daddy is having a bowel movement."

This observational process can begin occurring from early infancy. With a potty chair or a small toilet available to the older infant, the child can begin exploring the bowel and bladder control process just as she/he does communicating, feeding, and walking. Parents can be instructed to describe experiences accurately, have the child repeat back, and provide encouragement and rewards for attempts made at bowel and bladder control just as they have during the development of other tasks.

Labelling of Bowel and Bladder Control Experiences. It is important that bowel and bladder control experiences come to be accepted by the child rather than rejected or avoided. Labelling of the experiences plays a crucial part in the child's perception of the elimination processes. When labeling the cues, parents can describe them with such phrases as "you are urinating or wetting now" or "you are having a bowel movement." Words more acceptable to the parent, of course, can be substituted. The point is to have parents avoid negative affect-laden descriptions, with words such as "stinky" or "yucky." If the

infant hears descriptions with such negative connotations, she/he too could begin to associate these natural processes as negative, unclean, unwanted, or shameful. It is especially important for parents to foster an attitude of acceptance, since a negative connotation of elimination of body waste is institutionalized by our society. A fear of being "seen by their peers in the bathroom frequently results in first graders and older children holding bowel movements until they return home" (Stadtler,1989). Further, many schools remove the bathroom doors in the boy's restroom; consequently boys, in particular, will often delay their bowel elimination until they return home from school. In contrast, other cultures have communal and open areas for the elimination of body waste, consistent with the view that it is not a negative and secretive daily activity. If we can help parents foster in children a more natural acceptance of the necessary elimination of waste, perhaps constipation and encopresis would not be as prevalent.

Managing the Environment to Facilitate Bowel and Bladder Control Over Time. The extended social environments in which the child is involved must also be evaluated in the family's approach. Understanding the parents' interest in this task being completed at a particular time is of utmost importance, as is understanding the expectation of other care providers in the child's environment. Methods of facilitating this process must be shared with other caregivers, including grandparents, siblings, aunts, and/or daycare providers.

How important it is to the family that this child is "toilet trained" must be explored and made clear to every member.

It is important for the practitioner to assess the individual care provider's life situation that serves as a context for facilitating the bowel and bladder control. A parent who does not work, has financial and emotional securities, and a child without developmental delays would be better able to facilitate the child's bowel and bladder control process at an earlier age than would a single parent who is working under financial and emotional stress. Prescriptive information for the parent can then be provided based on that context, in order for encouragement of bowel and bladder development to be done in a manner that does not increase the risk for child abuse.

It is important to help parents and caretakers understand the important distinction between independent performance and interactional performances. Parents can wait for independent performance of this developmental task or they can attend to the child's body signals, linking such signals to toiletting needs, in an interactional approach to facilitating this development. Other important issues to discuss are: location and useability of public facilities, number of people available to assist the child, the family activities, and the allotment of time available to assist the child.

SUMMARY

Toilet training is one of two developmentally-salient child problems most commonly associated with fatal abuse. Burns and fractures are particular

patterns of injury attending abuse triggered around issues of bowel and bladder control. The pattern and severity of these documented physically and emotionally abusive responses on the part of parents in their efforts to "toilet train" illustrate the control issues embedded in the process. Historical and current literature and research points up the discrepancies in expectations for when a child is able to actively engage in the toiletting process, clearly depicting a need to reconcile physiological, developmental, social as well as cultural expectations associated with this developmental task. Nurses must make proactive efforts to teach parents about toiletting in order to prevent such abusive control measures triggering dangerous and even deadly abuse.

As practitioners, it is important to assess our contribution to how this particular developmental task is accomplished in our society. First, understanding and articulating the normal physiological and neurological development of bowel and bladder control to the parent is essential. Second, parents must be instructed regarding the child's manifestations of autonomy and his/her need to assert him/herself and the significance of "control" at this age. Third, teaching parents to be responsive to beginning cues or signals of the development of bowel and bladder control will teach both parent and child to value and respond to the signs of this developmental task. Fourth, modeling this task and fostering acceptance of this process as a natural and necessary bodily function will serve to decrease the negative connotation of elimination of body waste institutionalized by our society. Nursing's unique focus on health

education and prevention provides the opportunity to decrease "toilet training" as a trigger for abuse by providing physiological and personality development information, teaching responsiveness to cues, teaching modeling, and teaching management of the environment to caregivers of children at risk.

RECOMMENDATIONS FOR FURTHER STUDY

Based on the results of this review of lay and professional literature on the development of bowel and bladder control and issues surrounding this developmental task, it is clear that further research of this phenomena is needed in at least three areas. First, it is necessary to determine how cognitive and behavioral mastery of bowel and bladder control can compensate for physical maturation of the bladder and its sphincters. Ongoing basic science research on this physiological function is critical. In addition, since bowel and bladder control seem to precede physiological maturation, study of the cognitive and behavioral strategies that compensate need to be delineated. Then nurses can assist parents in incorporating these strategies in the facilitation of this developmental task.

Second, in terms of nursing, it is important to understand the determinations parents make about which sources of information concerning bowel and bladder control have relevance and utility for them. Given the conflicting information available, how do parents decide which information or approach to adopt? How important is the source of information, in terms of expertise? How important is the medium by which it is delivered? Educating

parents about a developmental approach to bowel and bladder control will be greatly facilitated if we have an understanding of the most effective modalities for providing the information.

Third, a longitudinal research project is needed to test a model program, using the developmental approach to bowel and bladder control outlined in this paper. Using an experimental design, one control group of parents would be taught to recognize early cues of the developing maturation of bowel and bladder control and methods of facilitating its natural progress, another group would use traditional approaches. The groups would be compared on a variety of variables including (but not limited to): parenting stress, incidents of punishment or abuse, child self-esteem, child's ability and confidence in signaling his/her needs for toiletting, child's ability to care for his/her own toiletting needs, and the age of completion.

Other areas that require investigation include parental awareness of sociocultural expectations and the strength of their impact on the parent and child, using a developmental approach. In addition differences between alternate family structures (such as single-parent and dual career parent vs. two parent household with one parent available to the child at all times) would be useful to determine if different family types require different strategies. It may be especially critical to examine the parenting stress that attends toilet training at 2 to 2-and-a-half years of age, when control and autonomy are salient issues: especially given the rate of child abuse that occurs during this age

period. Finally, the timing of toilet training and its relationship to the development of autonomy and self-esteem requires study so that these characteristics can be optimized for children. It is only through careful attention to the phenomena of bowel and bladder control that nursing can develop research-based interventions for parents that reduce the risk for child abuse and optimize child developmental outcomes.

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