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The Psychology of Antecedents to Adult Reproductive Disorders in Adolescent Girls

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Abstract

The normal developmental tasks and roles of adolescence are altered with a diagnosis of a reproductive disorder. The crisis of impaired fertility affects both parent and child, stressing the family system. For the adolescent girl, a reproductive disorder impacts her developing sense of self, body-image and sexuality which, in turn, can affect her self-esteem and relationships with others. Because of the sexual nature of a reproductive disorder, feelings of embarrassment or protectiveness are often engendered that can make it difficult for families to discuss. Nonetheless, families do best with openness and honesty regarding the condition and should be discouraged from keeping the diagnosis a secret.

Adolescence encompasses a broad spectrum of emotional maturity, which needs to be considered by parents and clinicians when communicating information. Understanding that the family is an emotional unit, a family systems approach to deal with health issues is most appropriate. In this context, parents need to first deal with their own feelings about the diagnosis, before they can help their child. Secondly, parents must be provided with tools to build an ongoing conversation with their child that will avoid stigmatizing her condition and handicapping her growth into healthy adulthood. The goal for parent and clinician is to help the adolescent girl formulate positive self-esteem and body image, despite impaired fertility.

Adolescence is a transition time of profound physical, cognitive and psychosocial changes. The maturation from childhood to adulthood is marked by a transformation of mind and body as a girl develops into a young woman, capable of reproduction. For most young women, the metamorphosis of adolescence occurs in a gradual, continuous, and generally uneventful process, despite the normal ups and downs of life. However, when an adolescent and her family are faced with a health crisis impacting her future reproductive capacity, the norm is disrupted and the family must adapt to a new variety of normal with unknowns and uncertainty about the future.

To understand the potential psychological impact of a medical condition affecting future fertility in a girl, it is important to first briefly consider the normal stages, goals, and tasks of

adolescence for the teen and for her family. Adolescence is defined most often by chronological age, yet is more accurately understood by the physical and emotional qualities of the individual. These qualities can be culturally determined and present large cross-cultural variations. Thus, it is important to consider psychosocial aspects of development as opposed to chronological age or physical development when characterizing adolescence. Typically, the stages of adolescence are considered over three phases: early, middle, and late adolescence.

Early adolescence is considered roughly between the ages of 10 to 13 and is marked by the onset of puberty, with emerging sexual feelings and a growing preoccupation with the changes that are taking place in the body. Cognitively, concrete thought predominates and decision-making capabilities are highlighted by a limited ability to conceive of long-range implications of actions. The early adolescent's world is egocentric, imagining others have the identical perspectives and values, while at the same time focused on conformity to peer opinion and pressure. Early in adolescence there is an effort to establish some independence from parents as children become more emotionally reliant on friends.

Middle adolescence occurs between the ages of 14 to 16, during which there is an exploration and growing awareness of sexuality and sexual identity. This period is marked by a sense of omnipotence and invincibility, often with more risk-taking and impulsive behaviors that test the limits of parents. Self-image is usually defined by the perceived opinions of others, especially peers. During this period, abstract thinking begins and there is an emerging capacity to take in information and make independent decisions, often with an absolute sense of what is right and wrong.

Late adolescence is from age 17 and beyond, marking the transition to adulthood. The end of adolescence is now considered in the mid-twenties as the pursuit of adult vocational roles and emancipation has been extended over the last century. During this stage, there is an integration of sexual feelings, thoughts, and experiences into a mature sexual identity with the capacity for intimate relationships based on giving and sharing. The late adolescent has a firmer sense of self, with a self-image that is no longer defined by peers, and has established independence from family while incorporating family values and adult interactions with parents. Abstract thought is firmly established and there is the ability to make independent decisions, based on personal values and the capacity to understand others' perspectives. (1,2,3)

The profound physical and psychosocial changes that take place during adolescence occur within a family structure where there are definable goals, tasks, and roles for both parent and child. A number of theorists have identified the developmental tasks of adolescence as the achievement of autonomy and independence from the family, as well as the establishment of a self-identity that includes values formation, acceptance of body and sexual identity. Adolescents must figure out who they are, separate from their family, and integrate physical changes from puberty into their psychosexual sense of self as they grow into adulthood.

To achieve these developmental tasks, the family system must adapt with parent and child taking on roles to facilitate maturation to adulthood. The parents' role is to protect and nurture their child while simultaneously fostering autonomy and encouraging independence. At times these two tasks may conflict, as in "helicopter parenting" where parents hover over their children's every activity believing they are protecting and nurturing, when they are actually hindering independence. The adolescent's role in the family is to incorporate a sense of self, based on relationships with family and friends, while at the same time separating and individuating from the family.

The crisis of impaired fertility

There are a number of disorders and medical conditions that may affect the reproductive capacity of adolescent girls described throughout this publication. Some may be chronic conditions, such as genetic or congenital disorders, where the diagnosis may evolve over time and integration to the consequences of the condition requires a lengthy adjustment. In contrast, acute situations may occur, such as the diagnosis of a childhood cancer, where decisions regarding fertility preservation must be made quickly before treatment can begin. Whether the condition is acute or chronic, the common consequence is the potential for impaired fertility in adulthood that must be addressed with the adolescent girl and her family. For most parents and children, sex and sexuality are extremely difficult to talk about under normal circumstances, making family discussions of reproductive problems even more challenging.

Like any health crisis, the diagnosis of a reproductive disorder understandably stresses the family system and disrupts normal psychosocial development. Parents, whose normal task is to foster autonomy and independence, find that they must be closely involved in their teen's assessment and care. Unable to protect their child from potential hurt and pain, some parents may become hypervigilant in their care and have difficulty encouraging independent behavior. Further, they may try to protect their child from information regarding impaired fertility by keeping it a "secret", because they feel embarrassed by the discussion or because they may fear dealing with the child's emotional anguish, as well as their own.

Adolescents often experience a significant change in how they see themselves and in their relationships with others. This alteration in sense of self could adversely impact feelings of self-esteem and self-image, and further alienate the teen from peers at a time when peer recognition, identification and support are so important. In addition, because the disorder is reproductive in nature, the adolescent's psychosexual identity is disrupted with regard to body image and sexuality. Despite the disruption to the family system, the developmental tasks of adolescence remain the same and must be attended to by parent and child, while at the same time incorporating the implications of the diagnosis. Ultimately, the goal is to help the teen achieve autonomy, independence, and a positive self-identity as an emotionally healthy adult.

Both parent and child experience the psychosocial impact of a reproductive disorder. Impaired fertility can be experienced as a loss for the entire family, and the multifaceted nature of the loss may have long term consequences for all. First, there is an alteration of life plans, as parent and child comprehend the loss of genetic continuity and the reality that the next generation may be denied or that there will be a need for deliberateness in family-building (i.e., donor egg, gestational carrier, or adoption) in order to have a baby. If the condition does not mean absolute sterility, then there may be ambiguity for the young woman as to whether she is really infertile or not, which causes additional distress. As has been mentioned, there is an altered sense of self for the young woman with changes in body and self-image, and the prospect of future infertility could negatively impact these feelings. Further, feelings of stigma and shame, both from the medical condition as well as the resulting infertility, may be experienced. The adolescent feels different from her peers, which is stigmatizing, and may feel that she is inherently defective, which is shameful. Parents often suffer intense guilt believing they are responsible for their child's disorder as well as feeling unable to protect their child from the physical and emotional pain. Shame may be perpetuated in the family if secrets were kept from the child by her parents regarding the diagnosis and its implications. Grief and mourning, as a consequence over the many losses associated with reproductive impairment, have been well-documented in the literature. Both adolescents and parents may experience symptoms of anxiety and depression

as they come to terms with the diagnosis, and appropriate assessment, counseling, and support should be considered by caregivers.(4)

Facilitating communication in the family

When faced with a diagnosis of a reproductive disorder during adolescence, formulating effective communication between caregiver, parent and child is essential. Approaching communication from a family systems perspective may be most effective. In Bowen's family systems theory, the nuclear family, rather than the individual, is considered the emotional unit.(5) It is the nature of families to be emotionally connected and reactive, thus making them interdependent. While the degree of interdependence may differ in families, it is always present to some extent. They look to each other for approval, attention and support, and react to each other's needs, expectations, and distress. Family members so profoundly affect each other's thoughts, feelings, and actions that it has been described as living under the same "emotional skin".(6) When there is a change in one person's functioning it is followed predictably by a reciprocal change in the functioning of other family members. Thus, a health crisis of impaired reproduction will reverberate emotionally throughout the family unit, and it is in the context of the family system that issues must be addressed.

First and foremost, parents will need the opportunity to understand and deal with their own feelings regarding the diagnosis before they can help their child understand and deal with her feelings. Parents often have strong emotional reactions on learning of their child's reproductive disorder, as they can comprehend the long-range implications—the loss of reproductive potential for their daughter to have a biological child and for them to have grandchildren. They need to have the chance to process this information emotionally and intellectually, feel their own grief and loss, and begin to develop a plan to help their daughter.

As important, adolescents need to be given information from their clinician about what may be going on in their bodies and about the consequences of the disorder on their lives. However, this information must be delivered in "pediatric doses", based upon the psychosocial age and emotional maturity of the child. What this entails is a process of "staged disclosure" whereby the clinician (and parents) allow questions to naturally emerge, and then answer them honestly. Through this gradual process, the child begins to absorb information about what is occurring in her body and what it means to her. Often, the adolescent girl's immediate concerns are regarding her physical development and her appearance to peers, and future fertility is not yet in her awareness.

Taking into consideration the spectrum of emotional maturity in adolescence, Buckman(7) describes a process for communicating bad news to patients. First, it is important to get the physical context right, with discussions taking place in an office setting and not over the telephone or by email. Along this line, Krahn and associates(8) suggest arranging two separate consultations: one for the disclosure of the diagnosis and the second to relate additional information about the condition. Next, the clinician should find out how much the patient knows by asking her about her understanding of why she is being seen and what she has been told. The subsequent step is to find out how much the patient wants to know by asking what her concerns are and letting questions emerge. The clinician is then in a position to share age-appropriate information about the condition and respond to the patient's feelings. Lastly, there should be a plan for on-going care and follow-through. Sutton and colleagues suggest making available written, easy-to-understand materials during the consultation that explain the reproductive condition, basic implications with respect to the

health of the individual, general information on standard of care for the condition, and support resource contacts.(9)

Physicians and healthcare providers should convey to parents the importance of full disclosure regarding the condition and open communication within the family regarding the truth.(9) Secrecy in families is invariably shame-based and children are perceptive to parental affect, sensing that something is not right with them or their health. Parents need to be encouraged to start talking early, with developmentally appropriate language, and will often need assistance from their care providers in formulating words and phrases to describe what the condition means. They also need support in finding ways to “normalize” their child’s feelings and experiences rather than “pathologize” the condition.

This approach includes helping parents reframe family-building images beyond biological parenthood in their discussions with their children. Ideally, conversations should begin early after the diagnosis, in order to help girls understand that there are reproductive alternatives (i.e., through adoption or gamete donation) and that families come in many different forms (i.e., couples without children and singles with friends that are “chosen family”). They also need to understand that life goals involve many choices, including choosing not to have children and deciding to channel one’s energy in other directions, such as advanced education and a career. The message needs to be one of creating acceptance of diverse solutions for happiness in adulthood, which are not defined by biology and reproduction.

A staged disclosure approach in talking to the adolescent patient is optimal, giving consideration to the child’s unique cognitive, psychosocial, cultural, and medical condition. Adolescence encompasses a broad spectrum and caregivers cannot take a “one size fits all” approach in communicating important medical information. As a young woman asks questions about her health, appearance, or issues related to her diagnosis, parents (and caregivers) need to be encouraged to answer openly and honestly. Parents and caregivers, also, need to continue to communicate options that go beyond biological motherhood as the adolescent grows into adulthood. Families do best with this developmental approach, but often need help in how to go about it.

Decision-making regarding treatment

When caring for adolescent patients, consideration must be given to their involvement in providing authorization and consent for treatment. A fundamental principal of bioethics is patient autonomy and respect in decision-making, insuring that patients are fully informed of their condition and treatment options in order to make the best choices. However, involving a child in medical decisions, fully informing her of the condition and options for treatment, and obtaining consent is a legally, socially, culturally, and politically contentious topic. Because adolescents are minors, their parents are legally responsible for their care and must provide consent for their treatment. However, developmentally, adolescents often have the ability to understand and to be involved in their own care. Joint decision-making is appropriate, whereby adolescents assent or consent to treatment, depending on their maturity and intellectual competency, while parents authorize or offer proxy consent.(10) The “family rule model” proposes that informed consent in children is shared between a child and parent, the balance being determined by implicit, developmentally based negotiations between the two.(11)

Including adolescents in decisions about testing or treatment requires the clinician to assess the psychosocial age/maturity of the patient and to provide her with appropriate information so that she understands what she is agreeing to. The American Academy of Pediatrics recommends the following steps in the decision process to obtain adolescent assent: (1) helping the patient achieve “developmentally appropriate” awareness of her condition; (2)

informing the patient about what she can expect from tests and treatment; (3) making a clinical assessment of the patient's understanding of the situation and factors influencing how she is responding; and (4) soliciting an expression of the patient's willingness to accept the proposed treatment or test.(12) In sum, healthcare providers must seek informed assent from adolescent patients and informed consent from their parents regarding testing and treatment.

Case report

The following case study will help to identify key elements related to this discussion. The family was seen at the Integrative Reproductive Biology Unit of the National Institutes of Health, and all identifying information has been changed. The patient was being evaluated for primary ovarian insufficiency (POI), perhaps more commonly and incorrectly called premature ovarian failure.

Parents

A Hispanic father of an adolescent girl contacted our team because he was concerned about his daughter's emotional well-being in view of her recent diagnosis of "premature ovarian failure." He was also concerned about his wife's response to this condition. Both parents were highly educated, supportive, and extremely concerned for their daughter's welfare. According to the parents, in their culture, fertility is viewed as a major component of feminine identity and worthiness. Before coming to our institution, they requested that we agree not to discuss anything about fertility with the girl, as they did not want their daughter to be distressed about potential infertility. We reassured the parents that we understood their concerns. However, we informed both parents that, while we planned to deal with the situation in as sensitive and non-traumatizing manner as possible, we could not agree to secrecy as a precondition for evaluation. The parents agreed and brought their daughter for evaluation.

Adolescent

The 15 ½-year-old Hispanic girl was referred to our institution with her parents for evaluation. At age 15, she came to medical attention for absent secondary sexual development and primary amenorrhea. The only reported secondary sexual characteristics were the presence of fine pubic hair for approximately two years and slight breast development beginning approximately two months prior to the evaluation. The patient had been taking no medications or supplements. Laboratory testing at initial evaluation revealed an elevated serum follicle-stimulating hormone (FSH) level of 96 International Units/liter, luteinizing hormone (LH) 42 International Units/liter, and serum estradiol < 10 pg/mL. She was found to have a normal female karyotype of 46, XX.

Pituitary magnetic resonance imaging scan with gadolinium contrast demonstrated normal anatomy and no evidence of adenoma. The referring physician felt that a diagnosis of pure gonadal dysgenesis could be made and that bilateral ovarian biopsy should be offered. The family sought to obtain a second opinion at our institution. The girl denied any hot flashes, night sweats, or other perimenopausal/menopausal symptoms. She also denied any excessive hair growth, acne, oily skin or excessive body odor. She had no history of rapid or excessive weight gain or loss, and no history of intense exercise regimen.

The patient was born by normal spontaneous vaginal delivery to a 27-year-old gravida 1, para 1 mother. Birth weight was 3975 gm. There were no complications. The mother did not take medications during her pregnancy. There were no problems with delivery or in the immediate postnatal period. As an infant, the patient was hospitalized at 15 days of life for

an episode of mastitis that was treated with antibiotics during a one-night hospital stay. Otherwise, she had been healthy without history of gastrointestinal, cardiovascular, pulmonary, psychiatric or neurological disease. She had no prior surgical history.

The patient's mother was 42-years-old at the time of this admission and 172 cm tall. She experienced menarche at 12 to 13 years of age and continues to have regular monthly menses. Mother reported a 15-year history of hypothyroidism. Father is 45-years-old and 173 cm tall. He experienced puberty around 13 years of age. The patient's brother was 18-years-old at the time of admission, 173 cm tall, and had experienced puberty at age 15 years.

There was no history of infertility in the family. The maternal grandmother had had three children who were 5 and 8 years apart. The mother reported this was unusual at a time when most women in their culture were having seven to eight children. There was no family history of systemic lupus erythematosus, rheumatoid arthritis, Type 1 or Type 2 diabetes mellitus, or other autoimmune disease.

The patient is currently in ninth grade and doing well academically. She particularly likes physics and music, and enjoys outdoor activities but does not exercise heavily. She lives with her 18-year-old brother and parents. Her father is a dairy farmer and her mother stays home with the children.

On examination, the patient was somewhat anxious but otherwise an appropriate, cooperative adolescent who seemed very worried about the evaluation to follow. Her temperature was 37.5C, pulse 91, respirations 20, blood pressure 98/69, oxygen saturation 98% on room air, standing height 157 cm, weight 53.8 kg, and BMI 21.8 kg/m². Mid-parental target height was 166 cm. She had Tanner stage II breasts and Tanner stage II pubic hair. Axillary hair was absent and the remainder of the physical examination was normal.

Laboratory evaluation at our institution revealed, FSH 84 International Units/liter (elevated), LH 49 International Units/liter (elevated), sex hormone-binding globulin 19 nmols/liter (normal), IGF 309 ng/ml (normal range for a Tanner II female - 115–428 ng/ml), serum estradiol 25.9 pg/ml (low), and serum progesterone 0.2 ng/ml. Urine pregnancy test was negative. The patient's other hormonal measurements were normal. Transabdominal pelvic ultrasound demonstrated a small, prepubertal uterus without visible ovaries. Based on the above findings of low estradiol, and elevated gonadotropins, and normal karyotype, we believe that the patient's diagnosis is spontaneous 46, XX primary ovarian insufficiency.

Management

We saw a need to approach management with a family systems model, viewing the family as an important factor in the psychological health of one or all the members. During our initial evaluation, the mother was apprehensive and frequently cried when talking about her daughter's potential infertility and how this would be a major loss in both her and her daughter's life. On several occasions the mother cried in front of her daughter, raising the patient's anxiety, as she didn't understand her mother's reaction while talking to the assessment team. When we meet with the patient, it was evident that her primary concerns were lack of menses and breast development because it made her different from her peers. She was pre-pubescent and did not raise questions about fertility during the evaluation.

We began by helping the parents understand the pathophysiology of the condition and its effect on their daughter's health. We also discussed ways to approach the issues of reproductive, emotional and endocrinologic health with their daughter. After the meeting, the parents had a better understanding of their own issues regarding their daughter's reproductive health and felt prepared to answer her questions honestly, when she raises the

subject. During our meeting with the patient alone, we provided her with information regarding her health and physiological development, and the effects of her medications on normal adolescent development. Both the patient and her parents left our institution feeling less distressed and more empowered to face the issues associated with her condition.

Discussion

Although the presenting problem for this patient was the differential diagnosis of primary ovarian insufficiency, it was clear from the start that her parents' primary concern was the potential future infertility of their daughter and the psychosocial impact this would have on her life. Fertility and women's identity are controversial topics, but most studies agree that there are important biological and social factors that influence the desire for motherhood. (13) In many Latin American cultures, women are expected to devote their lives to motherhood. For example, in the Mexican culture women's gender identity has been historically tied to the concept of Marianismo or the symbol of the Virgin of Guadalupe as the ideal of femininity and motherhood. (14) This view is perpetuated through media and educational systems in some Latin countries and the role for motherhood as the central role of women continues to influence the development of young women. (15) Given the presenting parental concerns and fears regarding the disclosure of future infertility, it was clear that in this girl's culture her identity in adulthood as a mother would play a crucial role in her life.

We performed an extensive search of medical literature for guidance on informing this adolescent child about her medical condition and the associated ethical issues. In Western societies, legal and ethical beliefs promote the right of an individual to make his or her decisions regarding health care and related information. (16,17) However, in other cultures, the protection of individuals from potential societal discrimination takes precedent over their right to know the full impact of their diagnosis. (18–22) In general pediatrics, as patients enter adolescence, the emphasis is on providing more information in order to foster independence. Normally, adolescence is associated with puberty and during those important years gonadal hormone priming of the brain is associated with increasing behavioral maturity. The patient, although 15, was hypogonadal and our behavioral observations noted that she was immature for her chronological age which may help explain lack of interest in her reproductive function at the time. We have observed a similar behavior in other adolescents with hypogonadism.

Our dilemma in this case had to do with deciding at what age a child is mature enough to manage questions regarding future infertility when the cultural environment places women's reproductive function as their defining gender role. Who shall make the decisions about providing this information to a minor when the parents are reluctant to disclose this information? Is it ethical to discuss options such as cryopreservation of ovarian tissue with a minor, without considering the impact on her self-esteem or identity as a woman? Since the adolescent years are important in developing self-image as a woman, should we recommend not discussing potential infertility for at least 2–3 years while she receives estradiol and progesterone replacement therapy? This approach may give her time to cope with the diagnosis, and allow her to think maturely about her reproductive options.

We felt that the role of the family was essential in the process of staged disclosure of the potential for infertility to the patient. Being sensitive to the cultural issues, our strategy was to provide the parents with sufficient information regarding the medical and psychological issues related to primary ovarian insufficiency and to charge them with the task of helping their daughter understand her future reproductive limitations. We also believed that meeting privately with the adolescent girl in a setting where she could direct how much information to receive would allow for measured and careful disclosure regarding fertility concerns. We

acknowledged the parental fears of disclosure, but also provided information and assistance on being open and honest regarding the implications of their daughter's diagnosis, in order to help them talk to her as she matures.

Conclusion

The normal developmental tasks and roles of adolescence are altered with a diagnosis of a reproductive disorder. The crisis of impaired fertility affects both parent and child, stressing the family system. For the adolescent, a reproductive disorder impacts her developing sense of self, body-image, and sexuality, which can affect her self-esteem and relationships with others. Because of the sexual nature of a reproductive disorder, feelings of embarrassment or protectiveness are often engendered, making it difficult for families to discuss. Nonetheless, families do best with openness and honesty regarding the condition and should be discouraged from keeping the diagnosis a secret.

Adolescence encompasses a broad spectrum of emotional maturity, which needs to be considered by parents and clinicians when communicating information. Understanding that the family is an emotional unit, a family systems approach to deal with health issues is often most appropriate. In this context, parents need to first deal with their own feelings about the diagnosis, before they can help their child. Secondly, parents must be provided with tools to build an ongoing conversation with their child that will avoid stigmatizing her condition and handicapping her growth into healthy adulthood. The goal for parent and clinician is to help the adolescent formulate positive self-esteem and body image, despite impaired fertility.

References

1. Hornberger LL. Adolescent psychosocial growth and development. *J Pediatr Adolesc Gynecol*. 2006; 19:243–246. [PubMed: 16731422]
2. Sieving, R.; Stevens, AB. Adolescent psychosocial development: Implications for pregnancy and prenatal care. In: Story, M.; Stang, J., editors. *Nutrition and the pregnant adolescent: a practical reference guide*. Minneapolis, MN: Center for leadership, education, and training in maternal and child health. University of Minnesota; 2000. p. 23–20.
3. Burgis JT, Bacon JL. Communicating with the adolescent gynecology patient. *Obstet Gynecol Clin N Am*. 2003; 30:251–260.
4. Covington, SN.; Burns, LH. *Infertility Counseling: A Comprehensive Handbook for Clinicians*. 2. New York: Cambridge University Press; 2006.
5. Gilbert, RM. *The Eight Concepts of Bowen Family*. Falls Church, VA: Leading Systems Press; 2006.
6. <http://www.thebowencenter.org/pages/theory.html>, Oct 19, 2007.
7. Buckman, R. *How to Break Bad News—A guide for Health Care Professionals*. Baltimore, MD: The Johns Hopkins University Press; 1992.
8. Krahn G, Hallum A, Kime C. Are there good ways to give “bad news”? *Pediatrics*. 1993; 91:578–82. [PubMed: 8441562]
9. Sutton EJ, Young J, McInerney-Leo A, Bondy CA, Gollust SE, Biesecker BB. Truth-telling and Tuner Syndrome: The importance of diagnostic disclosure. *J Pediatr*. 2006; 148:102–7. [PubMed: 16423607]
10. Dudzinski DM. Ethical issues in fertility preservation for adolescent cancer survivors: Oocyte and ovarian tissue cryopreservation. *J Pediatr Adolesc Gynecol*. 2004; 17:97–102. [PubMed: 15050985]
11. Foreman DM. The family rule: a framework for obtaining ethical consent for medical interventions from children. *J Med Ethics*. 1999; 25:491–6. [PubMed: 10635505]
12. Committee on Bioethics of the American Academy of Pediatrics. Informed consent, parental permission, and assent in pediatric practice. *Pediatrics*. 1995; 95:314. [PubMed: 7838658]

13. Hrdy, S. *Mother Nature: Maternal Instincts and How They Shape the Human Species*. Ballantine Publishing Group; 1999.
14. Stevens, E. Marianismo: the other face of machismo in Latin America. In: Pescatello, A., editor. *Female and Male in Latin America*. University of Pittsburgh; PA: 1973. p. 89-102.
15. Levine, S.; Sunderland, Correa C. *Dolor y Alegria: Women and Social Change in Urban Mexico*. University of Wisconsin Press; Madison, WI: 1993.
16. Goldberg RJ. Disclosure of information to adult cancer patients: Issues and update. *J Clin Oncol*. 1984; 2:948–955. [PubMed: 6747672]
17. Annas G. Informed consent, cancer, and truth in prognosis. *N Engl J Med*. 1994; 330:223–225. [PubMed: 8264766]
18. Uchitome Y, Yamawaki S. Truth-telling practice in cancer care in Japan, in Surbone A, Zwitter M (eds): *Communication With the Cancer Patient: Information and Truth*. *Ann N Y Acad Sci*. 1997; 809:290–299. [PubMed: 9103580]
19. Torrecillas L. Communication of the cancer diagnosis to Mexican patients. *Ann N Y Acad Sci*. 1997; 809:188–196. [PubMed: 9103570]
20. Grassi L, Messina EG, Magnani K, et al. Physicians' attitudes to and problems with truth-telling to cancer patients. *Support Care Cancer*. 2000; 8:40–45. [PubMed: 10650896]
21. El-Ghazali S. Is it wise to tell the truth, the whole truth and nothing but the truth to a cancer patient? in Sorbone A, Matjaz (eds): *Communication With the Cancer Patient. Information and Truth*. *Ann N Y Acad Sci*. 1997; 809:97–108. [PubMed: 9103561]
22. Pellegrino E. Is truth-telling to the patient a cultural artifact? *JAMA*. 1992; 268:1734–1735. [PubMed: 1527884]