

CASE STUDY 3:

Toddler

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GENDER

F

AGE

2½

SETTING

- Clinic

ETHNICITY

- Spanish American

PSYCHOSOCIAL

- Routine exposure to cigarette smoke
- Parental anxiety

ETHICAL

- Possible nurse bias

THE NERVOUS SYSTEM

Overview: This case requires knowledge of otitis media, hearing impairment, the long-term effects of second-hand cigarette smoke on a child's health, growth and development, as well as an understanding of the client's background and personal situation.

Client Profile

Isabel is a 2½-year-old toddler who lives with her parents and 13-month-old sister in a rural community. Her father is a migrant worker and her mother stays at home with the children. Both parents are smokers. Both Isabel and her sister experienced recurrent episodes of otitis media during infancy although Isabel's infections have become less frequent. Isabel's speech is delayed; however, her mother believes that this is due to her lack of interactions with other children her age. Their culture and financial situation does not encourage daycare settings for children if the mother can stay at home with them. Most of Isabel's speech is not understandable although she babbles "constantly." Both children have received their scheduled immunizations at the local pediatric clinic. Isabel is brought to the clinic by her parents when she places a small toy in her ear that her parents are unable to remove.

Case Study

During the admission history, Isabel's mother tells the nurse that she has had "behavior problems" with Isabel since she was 11 months old although she stated she had not mentioned this to the staff at the clinic because she was embarrassed. On further questioning, Isabel's mother explains that Isabel "never listens to me and doesn't even look at me when I talk to her." She further states that Isabel doesn't talk so they can understand her even though they have friends whose children not only talk all the time, but she can understand what they are saying. "Isabel's problems are probably my fault because I didn't raise her right. Now I'm afraid she is retarded and I don't know how to help her." Isabel sits in her mother's lap babbling during the interview and does not make eye contact with her parents or the nurse during their conversation or when addressed. She appears disinterested in her surroundings.

Questions

1. Discuss the significance of Isabel's clinical manifestations.
2. Discuss the relationship between Isabel's history of otitis media and her present condition.
3. What is the incidence of hearing impairment in children?
4. Discuss the types of hearing impairment.
5. Discuss Isabel's mother's comment that Isabel "has always been a behavior problem" and "Isabel's problems are probably my fault because I didn't raise her right. Now I'm afraid she is retarded and I don't know how to help her."
6. What other assessment data would be helpful for the nurse to have to prepare Isabel's care plan?

7. What are the priorities of care for Isabel?

8. Discuss the effects of hearing impairment on Isabel's growth and development.

9. Discuss the standards of medical-surgical care for Isabel's hearing impairment.

10. Discuss your feelings about parents' behavior that places their children at risk.

11. How could the nurse approach Isabel's parents about their cigarette smoking and how it compromises their children?

Questions and Suggested Answers

1. Discuss the significance of Isabel's clinical manifestations. Isabel's clinical manifestations indicate that Isabel is experiencing hearing impairment, probably conductive hearing loss. Her lack of vocabulary and understandable verbalizations results from her inability to hear sounds and words to imitate. Her "behavior problems" are probably because she is unable to hear when her mother speaks to her. Frequently children with hearing impairment are mistakenly diagnosed with behavior issues because the manifestations of the two are similar, including ignoring when people talk, being disinterested in what is going on around them, and inappropriate or immature language development.

2. Discuss the relationship between Isabel's history of otitis media and her present condition. Recurrent otitis media is the leading cause of conductive hearing loss. With repeated infections, the middle ear structures lose their flexibility and become rigid, interfering with the conduction of sound from the environment.

3. What is the incidence of hearing impairment in children? Approximately 3 in 1,000 neonates are born with hearing impairment. Preterm infants requiring intensive or critical care have an incidence of 1% to 4% or 10–40 per 1,000 because of the immaturity of the central nervous system and sensory nerves prior to 37 weeks' gestation. In addition, nerves are the most sensitive to changes in oxygenation in the body and most preterm infants born prior to 37 weeks' gestation experience some degree of respiratory compromise and impaired gas exchange. According to Lotke, "Hearing loss occurs in 10 per 1,000 children in the United States. Of these, roughly 1 in 1,000 has profound hearing loss, and 3–5 per 1,000 have mild to moderate hearing loss that may affect language acquisition unless hearing and/or language are aided. Acquired hearing loss may add 10% to 20% to this figure. Internationally, sensory-neural hearing impairment occurs in 9–27 per 1,000 children."

4. Discuss the types of hearing impairment. Three types of hearing impairment have been identified: conductive, sensory-neural, and mixed

(conductive and sensory-neural combined). Conductive hearing loss occurs when sound cannot be conducted through the middle ear structures. This type of hearing loss is usually mild and temporary. Sensory-neural hearing loss involves the malfunction of the cochlea in the inner ear as a result of the damage or destruction of the tiny hair cells. The term *neural* means nerve, so this type indicates damage to the auditory nerve that relays messages from the cochlea to the brain. Sensory-neural hearing loss is profound and permanent without surgical replacement of the cochlea (cochlear implant). Preterm infants of less than 37 weeks' gestation requiring intensive care following birth commonly experience this type of hearing impairment. Mixed conductive and sensory-neural loss has characteristics of both types of hearing loss.

5. Discuss Isabel's mother's comment that Isabel "has always been a behavior problem" and "Isabel's problems are probably my fault because I didn't raise her right. Now I'm afraid she is retarded and don't know how to help her." Her comment about Isabel always being a behavior problem indicates that Isabel's hearing impairment has been a chronic problem probably stemming from her recurrent bouts of otitis media. Feelings of guilt are normal in parents of a child with any type of health problem. These feelings are stronger for those with children experiencing sensory deficits. Because of the perceived relationship between verbal ability and cognitive ability, concern about her child's intellectual and developmental functioning is understandable. The nurse should approach Isabel's mother in a very nonjudgmental and empathetic manner and explain that Isabel's lack of verbal skills and interest in her environment probably are related to her hearing impairment and do not necessarily indicate impairment in her cognitive ability. After collaboration with the health care provider, an intelligence test may be scheduled as a part of Isabel's assessment.

6. What other assessment data would be helpful for the nurse to have to prepare Isabel's care plan?

- a. Were Isabel's episodes of otitis media treated?
- b. How many episodes did she have?
- c. Was she ever tested for hearing impairment?
- d. Does Isabel have a referral to an audiologist?
- e. Audiography results will provide information concerning the presence and severity of Isabel's hearing impairment.
- f. What do Isabel's parents know about smoking and the increased incidence of otitis media?
- g. Do they understand the relationship between recurrent otitis media and conductive hearing loss?
- h. What is their understanding of normal growth and development?

7. What are the priorities of care for Isabel?

- a. Disturbed sensory perception, auditory, related to hearing impairment
- b. Risk for injury related to hearing impairment and growth and development
- c. Impaired verbal communication related to hearing impairment
- d. Risk for delayed growth and development related to hearing impairment
- e. Deficient knowledge, parental, related to Isabel's condition, treatment, and home care

8. Discuss the effects of hearing impairment on Isabel's growth and development.

Children develop verbalizations by mimicking the sounds they hear. Most children can verbally communicate their needs by age 2 years, and may have a vocabulary of greater than 500 words. They are talkative and verbalize constantly whether someone is listening or not. This is a time of developing autonomy, from becoming a dependent individual with limited verbal skills to a more mature and increasingly independent individual who is able to verbalize her wants and needs. This also is a time of inquisitiveness and discovery that can be hampered and even dangerous without the ability to hear. Toddlers have increased incidents of injury as a result of their inquisitiveness and limited judgment (which, of course, they don't realize). Keeping toddlers from running out in the street in front of cars is a real safety concern. For Isabel, her hearing impairment compromises her even more because she cannot hear her mother's warning or the sound of an approaching car.

9. Discuss the standards of medical-surgical care for Isabel's hearing impairment. Conductive hearing loss is managed with the use of a hearing aid. This device amplifies sound. The hearing aid is adjusted to the individual child and in Isabel's case may need to be accompanied by some degree of speech therapy.

10. Discuss your feelings about parents' behavior that places their children at risk. Passive smoking increases the incidence of otitis media by irritating and damaging the cilia of the ear and drying the respiratory passages, increasing the risk of respiratory infections leading to otitis media. The student/reader must express his or her own feelings and biases concerning this situation and resolve that these must not interfere with nursing care.

11. How can the nurse approach Isabel's parents about their cigarette smoking and how it compromises their children? The nurse must approach Isabel's parents in a nonjudgmental way and provide information about the relationship between passive cigarette smoking, the incidence of otitis media, and conductive hearing loss in children. An empathetic approach

is needed because tobacco addiction is a very strong one and difficult to overcome. The nurse should encourage the parents to cease smoking together as this will increase their success, and provide them with information concerning smoking cessation programs. If they don't feel they can stop smoking at this point, the nurse should encourage them not to smoke in the children's environment but rather to smoke outside of the home.

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