

CHAPTER EIGHT HEARING IMPAIRMENT

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Introduction and definition:

The ear is the part of the body that is used for hearing. Information about the world is acquired through hearing. Anybody that hears nothing around him, no matter how loud the sound is should be seen as having ear problem. It is a condition or rather an impairment which is a physical, observable condition of tissue that can affect the function of the organ system of which that tissue is a part. Hearing impairment is a disability that can affect the effective functioning of the total personality no matter the period of onset (Okeke, 2001). Among the earliest attempt to define hearing impaired was the one made by the committee of Nomenclature of the conference of Executives of American schools for the deaf (1938) which says that the deaf are those people in whom the sense of hearing is non-functioning for the ordinary purpose of life. According to them also, the hard-of-hearing can be defined as those in whom the sense of hearing although defective is functional with or without a hearing aid. The committee went on to categorize the deaf into two, thus:

- i. The congenitally deaf (people that become deaf from birth)
- ii. The adventurously deaf (people who though were not born deaf, still became deaf later in life, due to some accident or illness). Ross (1972) expressed that hearing impaired is the generic term that include both the hard of hearing (partially hearing) and deaf. These two terms came up because of newer diagnostic and testing method, persons classified as deaf have been classified as hard-of-hearing.. The hard-of-hearing are those who can benefit maximally from auditory training and from wearing hearing aids. This then enables them to acquire speech and language naturally. The deaf are set of people whose sense of hearing is completely lost as a result of damage in the auditory channel, thus such people's sense of hearing are rendered in-active and non-functional with or without hearing aids for the day-to-day life purposes.

Hearing impaired include both the hard-of-hearing (partially hearing) and the deaf. The two describe the degree of impairment. The hard of hearing refers to those whose hearing loss in the pre-lingual period or later is not of sufficient severity to preclude the development of some spoken language, and those who have normal hearing in the pre-lingual period but acquire hearing loss later. The category of their impairment is not as severe as that of the deaf. Bryan (1975) observed that it is well documented that deaf children are worse than hard-of-hearing and normal hearing children in arithmetic problems involving reading skills. Proper diagnosis is therefore important for proper categorization and eventual realization of the fullest potentials of hearing impaired children.

CAUSES OF HEARING IMPAIRMENT

There are a number of factors that can cause both conductive and hearing impairment. Okeke (2001) identifies 13 causes of hearing impairment thus:

1. Hardened wax or external object blocking the external auditory canal.
2. Inflammation of the middle ear (otitis media).
3. Infection of the middle ear such as sinuses, adenoids, tonsils.

4. Heredity, e.g otosclerosis, which is a hereditary condition that stiffens the small bones of the middle ear.
5. Infections such as German measles (rubella), small pox, mumps, influenza, cerebro spinal meningitis, maternal syphilis,
6. Drugs, poisons, e.g carbon monoxide, quinine taken by expectant mothers.
7. Birth injuries such as prematurity, prolonged labour, difficult birth, anoxia (lack of oxygen).
8. Pathological conditions of the foetus, erythroblastosis fetalis
9. Development anomalies.
10. Lack of the right vitamins (avitaminosis)
11. Noise and blast
12. Accident in the form of head injuries.
13. Brain tumors or abscess caused by condition such as birth injuries, degeneration of circulatory structures (Mba, 1995).

Some of the causes above occur before birth like the maternal rubella, that is the German measles that attacks pregnant mothers. Others occur during birth such as pre-maturity, prolonged labour, difficult birth, anoxia (oxygen insufficiency) etc. Most causes of hearing impairment occur after birth like Hardening of wax in the canal leading to the Ear Drum which blocks sound waves from entering the middle ear, and through to the inner ear.

CHARACTERISTICS OF CHILDREN WITH HEARING IMPAIRMENT

Hearing impairment is a handicapping condition that affects the normal functioning of the child. The condition impedes their educational achievement no matter the degree of impairment. Ernbrey (1971) who studies the effect of a mild hearing loss on educational achievement found out that the mild hearing impaired subject did not achieve at the same level as their normal*hearing children. The observable signs by which the hearing impaired could be identified include the following:

- Articulation of certain speech sounds correctly often eludes the child.
- The child finds it difficult to write down dictations.
- The individual fails to respond to or confuse verbal directions.
- Complains of a buzzing or ringing sound in the ear.
- Fails to respond when called from a distance.
- Complains of discharge from the ears.
- Speaks in an abnormally low, high or loud voice.
- The child responds only when he/she sees the speakers face or gesture. The individual has frequent colds and hay fever.
- The child bends forward so as to hear or understand what is said to him.
- Asks the speaker to repeat sentences or words.
- When called from a distance the child fails to respond.
- Gives wrong answers to simple questions.
- Often times the child dodges situations that may require him listen or talk to people.

- The individual is insensitive to sound.
- Rubs the ears frequently or turning to one direction as if trying to locate a sound.
- The individual has frequent ear aches and running ears.
- The child often screams to express pleasure, annoyance or need.
- The child is Withdrawn and does not mingle readily with classmates and neighbours.

TYPES OF HEARING IMPAIRMENT

The ear is divided into three major parts - the outer, the middle and inner ear. The outer ear picks or collects energy, the middle ear transmits the energy which is then converted into nerve impulses in the inner ear.

Generally, we have the following types of hearing impairments thus:

1. Conductive hearing impairment
2. Sensori-nueral hearing impairment
3. Central hearing impairment
4. Mixed hearing impairment.

Details of these are presented below:

The conductive hearing impairment: occurs as a result of obstruction to the passage of sound waves through the external canal or by way of the ossicular chain through the middle ear. It does not affect the inner ear. In this case therefore if sound vibrations can be transmitted in anyway directly to the inner ear without having to pass through the middle ear, the child hears. The person suffering from conductive hearing loss can be helped through surgery or through wearing bone conduction hearing aids behind the ears.

Sensori-nueral hearing impairment: is prevalent among children. This is associated with the inner ear because it is damage to or degeneration of the sensory structure of the inner ear that causes it. Those who suffer from this hearing loss are unable to hear most frequencies in the human voice in most cases.

Central hearing impairment: Cerebral cortex is the part of the brain where the sensation of sound is produced and interpreted meaningfully. Therefore if there is interference with the pathway through which nerve fibres proceed from the brain stem to the temporal lobes of the cerebral cortex it results to central hearing loss. In other words an error in the auditory center in the brain causes central deafness.

Mixed, hearing impairment: is the combination of conductive and sensorinueral hearing loss. An individual here has outer-or middle and inner ear problem combined. Mixed hearing deafness; are often difficult to diagnose and treat because there are problems of both conduction and processing of sound.

PROBLEMS OF HEARING IMPAIRMENT

Hearing impairment is a challenging condition as pointed out earlier, therefore a hearing impaired child or person is bound I have some problems. These problems range, from

language difficulty, social and emotional problems, thinking difficulty, to academic achievement problems.

1. Language difficulty - Severe hearing loss could deprive the affected person of the natural ability to acquire verbal language which could impede development. Bakare (1979) expressed that perception is the first major process in the cognitive processes and that the defects in the hearing organ of the deaf create a deficit in the development continuum of language skills. In the past, it is common to pass a deaf person for deaf and dumb meaning that he/she could neither hear nor talk. Today researches are beginning to reveal the complexity of the relationship between the two (hearing and speaking).

2. Social and emotional problems: The social integration of hearing impaired students with the classroom generally depends on whether or not their hearing peers perceived them good enough to make effective member of a discussion group or project group. (Northcott 1973). Socially the hearing impaired child is bound to be less mature than the hearing child of the same age because of certain frustrating problems he is subjected to like poor language development. Studies have shown that the hearing impaired manifest a great degree of emotional maladjustment than their normal peers. They are often emotionally insecure in their relationship with others as in most cases they are not sure of being understood by other people when they use sign language (Obikeze' and Ofojebe 2000).

3. Thinking and academic achievement: The hearing impaired children due to lack of auditory experience have their intellectual development defective when compared with the hearing children. Okeke (2001) argued that if the children's hearing impairment is not ameliorated, poor or lack of complex and abstract reasoning will pose a serious threat to the child's academic aspirations. In other words language disabilities resulting from deafness" directly interfere with intellectual performance and indirectly affect thinking by obstructing normal patterns of cognitive stimulation and interpersonal communication and interaction.

MANAGEMENT AND INTERVENTION PROCEDURES OF HEARING IMPAIRMENT

For the hearing impaired child to benefit maximally from special education programmes, there is need for proper management of his challenged state. Obikeze and Ofojebe (2000) identified ten measures for the management and control of hearing impairment in children. These are as follows:

1. The use of new drugs in treating infections of the ear, nose and throat.
2. Surgical treatment where possible
3. Use of improved hearing test techniques and equipment for diagnostic purposes.
4. Use of improved hearing aids such as ear trumpets.
5. Giving of better prenatal care to expectant mothers.
6. Availability of good medical and nursing care during the period of delivery and control of accidents and possible brain injury during and immediately after.
7. Regular medical and health care in infancy and during the school years.

8. Firm control of contagious diseases via vaccination and immunization.
9. Prompt treatment of colds and coughs in children.
10. Prompt treatment of middle ear infection such as otosclerosis

Strategies and programmes for educating the Hearing impaired

It is often difficult to mainstream the hearing impaired but when they are mainstreamed, such students need sign language interpreters in the classroom as well as supplementary resources assistance.

Teaching the hearing impaired will definitely pose a problem to the teacher because deafness being a serious sensory deprivation is noted to hinder the afflicted person's development generally and their academic achievement in particular. Thus Alade and Abosi /1991) found out that hearing impairment has adverse effects on academic achievement but the magnitude of such adverse effects depends on the degree of hearing loss. For effective teaching and learning therefore the hearing impaired needs appropriate methods that could facilitate the acquisition of language as well as social and emotional adjustment. These methods include:

1. Auditory method: - This method involves teaching hearing impaired children to recognize sounds. It emphasizes the development of listening skills. It is a situation whereby the hearing impaired is constantly exposed to sound and language in their environment together with the provision of some kind of hearing aids for amplification.

2. The oral method:- Here gestures and signs are not allowed. The oral method rather uses speech, lip reading and auditory training to teach. Stressing assisting the hearing impaired to acquire communication skills and de-emphasizing gestures and signs is necessary and central in the education of hearing impaired. Special educators also place emphasis in the development of early meaningful communication in the management of hearing impaired individuals.

3. Rochester method:- This method emphasizes reading and writing. Rochester method combines the oral method and finger spelling or writing in the air technique.

4- Neo-oralism:- The central task of this method is to give tools of communication especially expressive communication at an early to change youngster who are passive into being active and therefore develop an initiative in learning. The method, like Rochester method makes use of finger spelling. If the young deaf child masters finger spelling, the language mastery process becomes easy like that of the hard-of-hearing child.

5. Simultaneous total communication method:- This approach involves using oral communication audition, finger spelling, signs, gestures, dramatization reading, pencil and pen writing and drawing. All the sense modalities are used in the this method. Idowu (2004) writing on what the teacher should do to educate the hearing impaired or the deaf stated the following:

1. Learning by deaf children is visually oriented. What they can see is important to them and not what they are supposed to hear. So, the teacher should therefore make use of the black board, pictures, diagrams etc.
2. Making use of concrete objects creates and sustains interest in the lesson.
3. The concept of over-learning is very important in working with deaf children. A single idea or concept should be presented in a variety of ways, and by using more than one sense modality.
4. Every subject on the time - table could provide an opportunity for teaching language, or some form of communication skills. He added that teachers should seek co-operation of the home of the child and ensure that he/she is accepted, loved and encouraged by his/her parents /guardians.

Revision Questions

- 1 a. What do you understand by hearing impairment? b. List about ten signs of hearing impairment.
- 2a. What are the causes of hearing impairment? b. Write short notes on
 - i. the partially sighted
 - ii. the congenitally deaf
 - iii. the adventurously deaf
3. The hearing impaired is faced with some problems. Comment on this statement.
- 4a. Mention four major types of hearing impairment
- b. Explain fully the management and intervention of the hearing impaired child.
- c. How can the classroom teacher help the hearing impaired.

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