

The Importance of Early Identification and Intervention Programme for Children with Hearing Impairment in Nigeria

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Abstract - This paper examined the importance of early identification and intervention programme for children with hearing impairment in Nigeria. The paper is an expository paper which focuses on the concept of hearing impairment, identification and intervention programmes for children with hearing impairment. Effects of hearing impairment on a child were also discussed. Behavioural signs and symptoms of children with hearing impairment were identified. The paper also stressed the importance of early identification and intervention programme for children with hearing impairment. Problems facing early identification and intervention were highlighted. Various methods of identification and assessment of hearing impairment were mentioned. The paper concludes that children with hearing impairment can adjust well both in school and in the society if hearing impairment is identified early with the support of special intervention programme. Useful recommendations that will motivate governments in sponsoring research projects into incidence, prevalence and prevention of hearing impairment at the local and state level were proffered.

Keywords: Identification, Hearing Impairment, Intervention, Audiologist, Otologist

INTRODUCTION

Hearing impairment is a serious disability that affects a child's language development and communication skills. An infant/child with hearing impairment will be unable to hear what others are saying, hence he cannot attempt to initiate and develop his/her own speech and spoken sound will be meaningless to him.

The objectives of early identification and intervention programmes for a child with hearing impairment is to prevent and minimize language and communication delays identified and to enhance the child's language development and communication

skills for learning. However, early identification without appropriate special intervention programme can impede the affected child from reaching his/her full potential in life. This explains why Robert [1] posits that early screening and confirmation by a specialist that a child is hearing impaired are meaningless without implementation of proper intervention services. Thus, early identification and intervention programmes are necessary and urgent for children with hearing impairment if they must succeed in life. This is because a well-developed language skill serves as a foundation for communication which leads to school readiness and literacy achievement in these individuals' lives.

The unique and greatest part of a man's learning is acquired through hearing. It is the channel through which an abundance of stimuli trigger man's behavior from simple to complex. Job [2] stressed that hearing is the basic scanning, alerting, and contact sense in a man". Thus without hearing an individual is totally blank and is in a dark world. Man is highly dependent on his senses. Through his senses come the sensations which constitute his experience. Upon the information he receives from his senses, he builds his world of perception and conception of memory, imagination, thought and reasoning.

Hearing is one of the most important senses because man depends on it for most of his communication and interaction. Hearing helps us to orient ourselves in our respective environment. The basic fact is that environmental sounds help an individual to maintain contact with his environment and other people as well. Without hearing the sounds in his immediate environment, an individual with hearing impairment loses contact with that environment and ultimately lives in a world of isolation and darkness. Through this disastrous condition, it is believed that feelings of isolation, embarrassment and frustration which results in

anxiety, depression and despair can set in. This is the unwanted situation in which the hearings impaired have found themselves. This is the reason why Gregory [3] opined that “Deafness cuts people off from other people. What is life without hearing?”

Hearing enables an individual to interact with others to enjoy conversations, music, sound of the wind, and rain, songs of birds, church bells, hooting of car horns, the rumbling sky and passing vehicles. However, persons who are hearing impaired are deprived of these privileges and opportunities. Therefore, a sensory deprivation such as hearing organ limits the world of experience. It deprives the one affected of some of the material resources from which the world develops. When one type of sensation is lacking, it alters the integration and functions of all other senses. Such alteration occurs naturally and unknowingly, unless the individual is organized and attuned differently, survival itself may be in jeopardy. Sensory deprivation also has negative impact on one's personality which distorts one's behavior to a certain pattern. Olaniyan [4] observed that sensory deprivation lowers one's dignity of personality; it influences all aspects of one's life and makes learning more difficult.

Hearing impairment thus results in the difficulty to make and keep lasting friendship. Life is impoverished without the joy that various sounds can bring and there are situations in life (crisis, bomb blast) which can be more dangerous for someone who cannot hear. Aiyeleso [5] also observed that hearing impairment involves loss of contact with the world of sound, which in turn leads to limited awareness of auditory signs and signals, little or no appreciation of music, poor, comprehending of concepts resulting from lack of auditory perceptions, and psychological isolation from the sound environment. Thus, a person with hearing impairment lives a blank and confused life. In order to promote the psychological well-being and total development of persons with hearing impairment, provisions of early identification and special intervention are very necessary. This paper therefore focuses mostly on identification and intervention programme for person with hearing impairment. Effects of hearing impairment, behavioural signs and symptoms and useful recommendations are also discussed.

Concept of Hearing Impairment, Identification and Intervention

Hearing impairment is a generic term used to describe all categories of hearing problems ranging in

severity from mild to profound conditions (Aiyeleso [6]). Based on the age of onset of deafness, children who are born deaf are those who became hearing impaired early in life before they acquire societal language. They are also called the prelingually deaf. Children who are born with normal hearing but became hearing impaired later in life after they have acquired societal language are called the postlingually deaf. This is because they are deprived of the natural ability to acquire language as normal hearing children do by listening to their mothers, objects and people around them.

Identification of children with hearing impairment is an audiological assessment or test of hearing sensitivity of the affected child in order to detect or identify his hearing loss level for referral and for special intervention. It is the process of locating and screening of the suspected hearing impaired child for special education services. Intervention on the other hand is the purposeful programme designed to prevent, eliminate, and to overcome the obstacles that might keep a child with hearing impairment from learning and from full and active participation in school and society. It is also the medical, educational, and audiological remediation given to children who are hearing impaired.

Most children with mild hearing impairment can make use of their residual hearing however minimal in order to encourage understanding of language.

Similarly, most children with moderate, severe and profound hearing impairment, can also learn to lip-read words and simple sentences provided they are identified early and special intervention programs are set in motion to help them acquire language without delay. This assertion is specifically important for children in nursery schools, children who are academically backward or of infant age as well. This is because early identification, detection and intervention will prevent the affected children's condition from worsening. In addition, this measure will prevent additional educational difficulties, social and emotional mal-adjustment and speech disorders from arising in the affected child.

Effects of Hearing Impairment on a Child

In early babyhood, a normal hearing child soon learns to distinguish between sounds such as his mother's voice and of the preparation of his food. As time goes on, he babbles and hears adult responds to his babbles and early intonations. This invariably leads to his speech production which shows that the child has a considerable understanding of simple

language gained from the repeated words spoken by people around him.

However, when the hearing is damaged and is non-functioning the hearing impaired child has limited experiences of life, because he cannot enjoy most vital stimulus conversation, songs of birds, wheeze of winds, and sounds of voices that bring language to the intellectual company of man. This is because the means of interaction with his peers, friends and the environment is already impaired. If the baby's deprivation continues into childhood level he may never develop a fully mature understanding of language, even though he may fundamentally have a normal intelligence. The child will equally become emotionally disturbed, and associated with withdrawn and aggressive behaviours. It is only through early identification of his impairment and the application of intervention such as remedial therapies that he can be rest assured of his personal development and adjustment in life.

Furthermore, speech is another important aspect of language which a child acquired before he comes to school. Ojile [7] explained that a child acquires speech language between the ages of one and three years of age. He also stressed that this special capacity for learning as a first language decreases markedly at about adolescence. Hence the child plays with his peer and elders. Through the play he develops his linguistic ability. However, a child who is severely and profoundly hearing impaired is not likely to develop the skills of communication without special help. This is because, for a child to develop these skills, he has to make maximum use of every of his residual hearing through aural and oral training programme since it is believed that every child who is hearing impaired has an atom of residual hearing.

Meadow [8] stated that aural-oral programme is a special intervention procedure, of which its main aim is to enable a child with hearing impairment learn to use the maximum capacity of his ability to hear, communicate, interpret and initiate speech. Some researchers such as Olaniyan [4] and Okuoyibo [9] have identified some benefits which the hearing impaired derives from aural-oral training programme. The authors above asserted that aural-oral training can enable such children improve in their control of intensity and pitch of their voices.

However, for a child with hearing impairment to benefit from aural-oral training, it is advisable that the training programme be linked with the nature and types of hearing impairment as well as degree of

hearing loss in an individual. This is very important because there are differences in the nature, extent and degree of hearing loss in the affected child. Consequently, the needs in an aural-oral training programme may vary from one child to the other. The old adage says prevention is better than cure, and another says a stitch in time saves nine. This is true of the importance of- early identification and intervention for a child who is hearing impaired.

Behavioural Signs and Symptoms of Children with Hearing Impairment

The identification of hearing loss is a technical problem. It is always difficult to identify children with mild hearing loss. For instance, in a classroom situation teachers may think that such children are inattentive, stubborn and mentally retarded. Therefore, it is important for classroom teachers to be aware of some behavioural indicators or symptoms of hearing impairment loss which are constantly manifested by such children. Such behaviour in children include: not complying with direction or instruction, turning the better ear to whoever that is speaking, always asking questions repeatedly about the same point, talk too loudly or faintly due to lack of auditory feedback from their own voices, inattention in the classroom, unusual eye contact with the speaker in an attempt to gain verbal information, withdrawn and suspicious behaviour and failure to participate in group or class discussion just to mention a few.

Consequently, for this special intervention programme to achieve a positive result, a concerted effort is needed by a multidisciplinary team of professional such as educators of the hearing impaired, speech pathologists, otologists, audiologists, psychologists and social workers to ensure early training of children who are hearing impaired.

Early intervention also incorporates not only services to the children alone but also those programmatic activities designed for the parents of children who are hearing impaired. This would include educating parents on causes and prevention of hearing impairment, individual and group counselling and therapy sessions, and training of parents to work with their hearing impaired children in the home setting.

Importance of Early Identification and Intervention Programme

Researcher such as Okoli [10] opined that it is very important that the hearing acuity of the affected child be diagnosed early enough, so that special

treatment and management can begin on time, similarly it will give room for the best results or chances for normal or near normal language development in the child. This is because undetected hearing loss on time can impede the reception and processing of information by hearing impaired children. A child's normal intelligence could also be impaired due to the malfunctioning of the auditory channel. This may ultimately results in social maladjustment, behavior problems, poor self-concept, and academic failure in the child. This explains why early identification and intervention programme for children with hearing impairment are necessary and important.

Aiyaleso [11] observed that severe and profound hearing loss among many school children in urban and rural areas were as a result of late identification of hearing loss and intervention. Hence, there is an urgent need to identify and assess children's hearing acuity as early as possible so that the necessary intervention such as educational, medical, audiological remedies will be implemented. These will serve as a relief to overcome their hearing impairment.

Brill [12] also stressed that children with hearing impairment who are identified early and "benefitted from early intervention develop better communication skill, performed better academically, adjust quicker to life situations, develop better self-concept and emotional stability than children who were not identified early enough. According to Olaniyan [13], if the hearing impairment in a child is not discovered early enough, the educational and other developmental problems of such a child may become compounded.

Another important point or justification for early detection of hearing impairment in a child lies in the fact that the presence of undetected sensory neural or conductive hearing loss can affect a child's educational achievement and can cause language delay in children even when intelligence is within normal range. Daniel [14] asserted that even when the hearing impairment is unilateral, (hearing loss in only one ear) the child can still experience great difficulty in an ordinary classroom situation and consequently the child's educational achievement may be affected.

Bakare [15] explained that early identification of hearing impairment is of vital importance in developing the hearing impaired child's maximum potential especially in terms of language development. Thus, the earlier a hearing loss is identified, the more appropriate will intervention and rehabilitation

services for the effected child be initiated. It is a mistake and lack of knowledge or an I-don't-care attitude for parents, to wait until the child is of school age before identification exercise is done. To do the right thing at the wrong time is fruitless. A late identification of hearing loss will render intervention programme fruitless. Again, hearing impairment in an affected individual may worsen if not identified and treated early or the remedial programmes started on time.

Therefore, if hearing impairment can be identified at birth and training begin immediately; the language competence of children who are prelingually deaf could be improved and brought to the mildly level of those whose deafness occurred later in life. Eventually, this could result in increased manpower productivity which would be of immense benefit to the society.

Problems Facing Early Identification and Intervention of the Hearing Impaired

The most problems facing early identification and intervention of the hearing impaired include: lack of enough trained personnel in the field of audiology and intervention programme for the hearing impaired. This is because not all the specialist teachers and psychologists have adequate Knowledge of audiological assessment and evaluation of hearing loss. Similarly, there are many problems of identification and screening of young children who are hearing impaired. These problems may be caused by lack of personals awareness of a disability in the child, especially in the case of perceptual impairment such as hearing loss. There could also be the problem of lack of diagnostic instruments, lack of qualified personnel to assess and diagnose the hearing sensitivity. In most cases, the hearing impairment of a child may be so mild that the child adequately responds to instructions; the parents may feel satisfied with his hearing ability and attribute academic failure to the child's lack of interest and inattentive in the class. Swem [16] also observed that even when a child is being identified as having hearing impairment, parents usually refused to accept their fate at the initial stage. This parental negative attitude often serves as a barrier to early identification and intervention programme for the effected child. Another problem to consider is the scattered nature of the hearing impaired individuals. The children are far from each other and access to them particularly in the remote area is not readily available. Culture may also pose a

problem; most parents are so blinded by their cultural beliefs that they will never have any dealings with people outside their cultural group no matter how beneficial it would be. Another problem is lack of funds by the parents to buy high cost of hearing aids prescribed or materials for intervention programmes. Similarly, philanthropic organizations interested in the welfare of hearing impaired also lack adequate funds to embark on mass screening identification and intervention for such children.

Methods of Identification and Assessment of Children with Hearing Impairment

There are many methods of identifying and assessing the hearing acuity of children who are hearing impaired. Testing of children suspected of having hearing problems demand expensive electronic instruments, devices and sophisticated equipment. The answer to identification of hearing impaired is not purely the money spent but the competence, interests, training, experience, understanding and patience of the personnel who conducts the assessment.

The earliest possible age of identification of person with hearing impairment is also desirable. However, there are no universally accepted methods for identifying these children. Simple instrument such as human voice, fettle, drum, cup and spoon are normally used in testing hearing sensitivity. For example, Bakare [15] and Daniel [14] rightly emphasized the use of human voice. Daniel recommends that the criterion for identifying a new born baby who is at risk include one or more of the following: Defects of ear, nose or throat and intrauterine foetal infection. Infants falling into this category should be referred for an in-depth audiological evaluation of hearing during the first two months of life to receive regular hearing evaluations at well-equipped child clinics, or audiologic office. Testing for hearing loss in infants is always achieved through the observation of their behavioural responses to various sounds. Bakare also observed that hearing testing in newborns is equally achieved by the use of cups, spoons, ringing of bells, whistles and various other toys.

However, in the school environment, children with hearing impairment could be easily identified in the classroom through the pupils constant looking or watching at the teacher's mouth or speaker to lip-read what the teacher is saying, talking too loudly or too faintly due to lack of auditory feed-back, failure to follow spoken instruction correctly, mouth breathing,

sitting at the front in the classroom, unusual eye contact with the speaker in an attempt to gain non-verbal information, withdrawn behaviour, feeling moody, turning the better ear to whoever that is speaking, asking always for repetition of what is being said, failure to participate in group discussion, suspicious behaviour and passes better in written work than oral work.

With all these signs and symptoms an observant teacher could quickly detect that such children have hearing impairment. But hearing test in children from the age of two months to two years requires efforts and certain skills and specialized materials/instrument in order to identify their degree of hearing loss or measure their hearing acuity. According to Bakare [17], "the testing of the neonate involves essentially the observation of reflex responses such as startle and localization of sounds because at this stage the baby had just little experience with auditory association". On the other hand, this category of children can be tested in voluntary responses through play audiometry, sound and object identification. However, with the audiometer equipment all types of hearing loss can be easily identified because it contains the audiogram which is plotted in the graph that reveals clearly the levels of any hearing loss.

Furthermore, systematic and audiometric identification of hearing loss among school age children can also be carried out in two different stages such as Mass Audiometric screening and Threshold Audiometric screening. The first method which is Mass Screening Audiometry involves testing a large number of school children. The procedure involves either individual or group testing of children in spite of this, new born baby screening is more preferred by many people because of the difficulties involved in bringing all children to a central place for hearing test during the pre-school years. Screening tests is also possible when a child is of nine to ten months old because at this stage the normal hearing baby shows that he hears sounds by turning his head left and right. Also he can turn to look for and locate some sounds such as a high pitched rattle, a voice speaking or making sounds such as 'S' at a minimal intensity levels at this stage. Nevertheless, from eighteen months onward the Distraction test is more preferred. Denel [14] also observed that, when hearing impairment is identified in the newborn baby and or nursery school child, rehabilitation can begin immediately. Ojile [7] is of the view that all babies between eight and ten months of age should be

screened for hearing loss and that further facilities for screening should be available between then and school age. This is to ensure that children with hearing impairment are not missed out in the school programme. It is also of a great important that the parents and professionals such as otologists, audiologists, health officers, special educators, doctors and visiting nurses to be at alert to the need for early detection and identification of these affected children.

The second stage involved a more detailed test known as "Threshold Audiometric Screening which may confirm or nullify the presence of a hearing impairment in a child. This method according to Olaniyan [13] is appropriate for children who failed the Mass Audiometric Screening test. This test is normally utilised in schools to select children who should be referred to audiologists for more diagnosis. At school age, a sweep frequency test using an audiometer is also done. In this test, each ear is tested separately and the point at which the child just hears or just fails to hear is the threshold. In this manner, an estimate of the child's hearing level of sensitivity is obtained to ascertain the degree of hearing loss. This is because the degree of hearing loss is an important measure for the affected child's educational placement. Therefore, at school age, the first routine medical examination should include a screening test of hearing sensitivity for all pupils, and a teacher or an audiologist should draw attention to any child whose hearing he have any reason to question. However, poor understanding and inattention may make a child respond poorly to an individual or group sweep-check testing. In some situations, the psychologist, hearing impaired, specialists, and classroom teachers can use informal tests to obtain accurate measure of hearing acuity of the affected child. These informal tests include whisper-test, conversation at 20 feet-test, watch- tick test, sound of spoon and cup test, sound of whistle.

However, the most accurate method of testing hearing is with electronic audiometer equipment which clearly produces pure tones of controlled frequency and intensity. The steps in identification or diagnosis of hearing loss according to Olaniyan [4] is summarized as follows: Preliminary screening of children, Threshold testing and referral for otological examination if hearing impairment is found. Otological examination and medical treatment are done if indicated. Audiological hearing test to include

special tests and hearing-aids evaluation, psycho educational evaluation and special education services.

CONCLUSION AND RECOMMENDATION

Hearing impairment, whether prelingual or post lingual, acquired in early infancy or childhood, is one of the most serious disabilities since it impedes the development of language and normal communication, with obvious negative consequences for the child's intellectual and personal development.

However, if hearing impairment is identified early in affected children and they can benefit from early intervention training programmes, they will perform well academically. They will also adjust well both in the school and in the society as well. Early identification and intervention are the key principles in treating hearing impairment in both children and adults. Appropriate audiological and otological attentions are very important and when hearing loss is indicated, the prescription of a personal hearing aid and intervention training programme are of importance. In the case of young children, parental counselling and appropriate school placement by hearing impaired educators are also important aspects in the total rehabilitation programme for the young hearing impaired.

It is recommended that the government should train and make available, efficient and competent personnels who are familiar with screening procedures such as the otolaryngologist, audiologists, otologist and special educators. To ensure successful and effective screening programme, it is necessary to involve the ministries of education, health and social welfare officers, special educators, psychologists, doctors and trained nurses to work jointly on most programmes with children who are hearing impaired. The government should provide enough funds and equipment for audiometric screening, and hearing aids should be made available at subsidized prices. There should be public health service for immunization against dangerous illness such as meningitis, mumps and measles. This will serve as a preventive measure against other diseases and would go a long way in preventing childhood hearing impairment. There should be public enlightenment through the mass media, churches, mosques, hospitals and clinics on the probable causes and prevention of hearing impairment to enable parents play an active role in preventing hearing impairment as well as rule out superstitious beliefs in their environment.

To overcome adjustment and socialization problems, children in deaf schools should be encouraged to participate in extracurricular activities with their hearing counterparts in the regular schools. Public inclusive education schools should be built in every local government area in Nigeria and be founded by government. Finally, the government should encourage and sponsor research projects into incidence, prevalence and prevention of hearing impairment at the local and the state levels. Hearing impairment in a child should also be identified early in life in order to tap the affected child's genuine talents for the nation's economic and technological development. To ignore children who are hearing impaired would be wasting of man power necessary for the development of a nation at large.

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