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Studies On The Psychological Aspects Of Acquired Hearing Loss In Late Childhood

Thesis
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Of Master Degree In Childhood Studies

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وردت فى القرآن الكريم ذكر " السمع " فى أحدى عشرة آيه من سور القرآن الكريم .

1. ففى سورة يونس آيه رقم (٣١) يقول تعالى :-

بسم الله الرحمن الرحيم

((قل من يرزقكم من السماء والأرض أمن يملك السمع والأبصار ومن يخرج الحى من الميت ويخرج الميت من الحى ومن يدبر الأمر فسيقولون الله أفلا تتقون)) .

٢. وفى سورة هود آيه رقم (٢٠) يقول تعالى :-

بسم الله الرحمن الرحيم

((أولئك لم يكونوا معجزين فى الأرض وما كان لهم من دون الله من أولياء يضاعف لهم العذاب ما كانوا يستطيعون السمع وما كانوا يبصرون)) .

٣. وفى سورة الحجر آيه رقم (١٨) يقول تعالى :-

بسم الله الرحمن الرحيم

((ولقد جعلنا فى السماء بروجا وزيناها للناظرين وحفظناها من كل شيطان رجيم إلا من أسترق السمع فأتبعه شهاب مبين)) .

٤. وفى سورة النحل آيه رقم (٧٨) يقول تعالى :-

بسم الله الرحمن الرحيم

((والله أخرجكم من بطون أمهاتكم لاتعلمون شيئا وجعل لكم السمع والأبصار والأفئدة لعلكم تشكرون)) .

٥. وفى سورة الأسراء آيه رقم (٣٦) يقول تعالى :-

بسم الله الرحمن الرحيم

((ولاتقف ما ليس لك به علم إن السمع والبصر والفؤاد كل أولئك كان عنه مسئولاً)) .

٦. وفى سورة المؤمنون آيه رقم (٧٨) يقول تعالى :-

بسم الله الرحمن الرحيم

((وهو الذى أنشأ لكم السمع والأبصار والأفئدة قليلا ما تشكرون)) .

٧. وفى سورة الشعراء آيه رقم (٢١٢) يقول تعالى :-

بسم الله الرحمن الرحيم

((إنهم عن السمع لمعزولون)) .

٨. وفى سورة الشعراء آيه رقم (٢٢٣) يقول تعالى :-

بسم الله الرحمن الرحيم

((لا يلقون السمع وأكثرهم كاذبون)) .

٩. وفى سورة السجدة آيه رقم (٩) يقول تعالى :-

بسم الله الرحمن الرحيم

((ثم سواه ونفخ فيه من روحه وجعل لكم السمع والأبصار والأفئدة قليلاً ما تشكرون)) .

١٠. وفى سورة ق آيه (٣٧) يقول تعالى :-

بسم الله الرحمن الرحيم

((إن فى ذلك لذكرى لمن كان له قلب أو القى السمع وهو شهيد)) .

١١. وفى سورة الملك آيه رقم (٢٣) يقول تعالى :-

بسم الله الرحمن الرحيم

((قل هو الذى أنشأكم وجعل لكم السمع والأبصار والأفئدة قليلاً ما تشكرون)) .

صـــــدق اللـــــه العظيـــــم

ABSTRACT

This study was conducted on 60 children, age ranging from 7-11 years with varying degrees of acquired conductive, sensorineural or mixed hearing loss, besides 30 apparently normal control children of nearly the same age and sex distribution. The duration of hearing loss was ranging from 1-5 years. General, Otolaryngologic and audiological evaluation were done for all children. Full psychiatric evaluation was done for all children of both groups to detect anxiety, phobia and depression using semistructured psychiatric interview and specific psychological tests used in Ain Shams Psychiatric Center. Anxiety, phobia and depression were more significantly higher among cases with hearing loss than the controls and all showed gradual increase with the severity of hearing loss. Anxiety was the most common psychiatric morbidity among the hearing impaired children. As the duration of hearing loss increased, the prevalence of anxiety and phobia decreased whereas the prevalence of depression increased.

Key Words

Psychological - Hearing Loss - Childhood - Phobia - Anxiety - Depression.

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INTRODUCTION

Hearing is the primary sensory modality for acquisition of speech and language, providing a fundamental basis for social adjustment and normal psychological development. Even mild or unilateral hearing loss during childhood has been shown to have a negative impact on language, hearing and child behaviour. More severe hearing loss presents a major handicap for normal psychological development (Northern and Downs, 1984).

The most obvious handicap which the hearing impaired suffers is in communication, but Ramsdell,1970, argued that the deprivation of background noises was most intimately related to the feelings of depression to which the hearing impaired were prone. This was produced by the feeling of detachment, unreality and isolation that this deprivation produced. The hearing impaired-child lives in a social world that is perceived as being somewhat apart. This permanent handicap limits the activity and development potential of children (Lobato, 1983). Adverse emotional consequences are likely to be a continuum to hearing loss rather than discrete illnesses or state.

Mahapatra, 1974, has also postulated that emotional consequences of hearing impairment are the result of sensory deprivation and social isolation. He also postulated that psychological effects of hearing loss would be expected to a far higher degree in patients with bilateral loss, rather than a unilateral loss, and in the severe degrees than the moderate and mild degrees of hearing loss.

Aim Of The Work

- To determine if there is a relationship between psychiatric morbidity namely anxiety, phobia and depression and acquired hearing loss in late childhood.

- To study if there is a relation of severity of hearing loss and presence of anxiety, phobia and depression.

- To determine if there is effect of duration of hearing loss on psychological state, namely anxiety, phobia, depression, in the hearing impaired child.

LITERATURE REVIEW

PHYSIOLOGY OF EAR

The sound conduction mechanism extends from the pinna to the organ of corti, each part of this mechanism forms a link in the acoustical chain which is designed to carry the following functions :

1. Collection and transmission of sound energy, involving impedance matching at every stage, and particularly in major matter of matching between the external air and the cochlear fluids (Groves, 1979).

2.. Protection of the inner ear from excessively loud sounds, a function carried out by the tympanic muscle without sacrificing sensitivity for low intensity sound levels (Groves, 1979)

THE OSSICULAR CHAIN

The malleus and incus vibrates as a combined unit, rocking on a linear axis which runs from the anterior ligament of the malleus to the attachment of the short process of the incus in the fossa incudis. When reciprocating movement of the conducting system takes place, the mass of the body of the incus and the head and neck of the malleus, lying above this, serves to balance the mass of the drumhead, malleus handle, long process of incus and stapes lying below it (Groves, 1979).

The stapes is often imagined to move in and out in the oval window nich with the simple movement of a piston. With sounds of moderate intensity the anterior end of the footplate ossiculates with a greater amplitude than the posterior end. In other words, a rocking

movement, occurs about a transverse axis near the posterior end (Groves,1979) .

With high sound levels, the mode of action changes and a side-to side rocking movement is seen around an axis running longitudinally through the length of the footplate. As a result, the cochlear fluids flows only from one edge of the footplate to the other, with much less fluid displacement than when the mode of vibration is through a vertical axis and the footplate is acting like a piston . This rotational shift of the axis is a protective mechanism for the inner ear (Bluestone, 1991).

THE TRANSFORMER MECHANISM OF THE MIDDLE EAR

In the intact middle ear a considerable degree of impedance matching is brought about, so that, while the amplitude is greatly reduced at the oval window as compared with amplitude at the tympanic membrane, the force of the vibration at the oval window is increased in the same proportion (Groves, 1979) .

This desirable effect depends on :

1. The Ossicular Chain Lever Ratio

The malleus and incus jointly act as a lever, pivoting upon the axis of rotation. The malleolar arm is longer than the incudal arm in the ratio of 1.3:1 (Groves, 1979).

2. The Areal Ratio Of The Tympanic Membrane And Oval Window

The difference in areas of the tympanic membrane and the stapes footplate results in a transformer action by hydraulic effect. Helmholtz
(1868) measured the areas and gave 64.3 sq.mm. for tympanic membrane and 3.2 sq.mm. for the footplate. The areal ratio is 20 :1, subsequent studies of the ratio gave slightly different values 18.2 :1, 19.1:1,26.6:1, the average of those five values is about 21:1, this is the anatomic ratio , and as the tympanic membrane does not vibrate as a whole, because it is fixed all around the periphery. Wever and Lawrence (1954), deduced that the effective area for the tympanic membrane is two-thirds of the anatomical area. Thus the effective areal ratio will be 14:1. The overall ratio for the middle ear is the product of ossicular chain lever ratio and the areal ratio between the tympanic membrane and the oval window, this give an approximate figure of 18.3. By means of the transformer action of the middle ear, the amplitude is greatly reduced at the oval window as compared with the amplitude at the tympanic membrane, and the force at the oval window is increased in the same proportion, or 18.3 times (Bluestone, 1991).

ROLE OF THE ROUND WINDOW

The area of the round window is 2 sq.mm. The window seals off the scale tympani and is situated at a right angle to the oval window. The round window is a relief opening to the labyrinth that permits the contained fluid to move under the influence of the stapes .As an entrance route for sounds the round window is a very poor path, and the sounds traveling by this route would be seriously

attenuated because the tympanic membrane is in the way . The phase of sounds entring this window differs from that of the oval window because the two windows are not situated in the same plane. This normal condition changes if the middle ear transformer is lost. The oval window is no longer superior to the round window and the sound strikes the two windows simultaneously . The sound waves in the labyrinth, however, travel from both ends and cancel each other . The loss of energy is about 12 dB, and this is called the cancel effect (Bluestone, 1991).

TYMPANIC MUSCLE REFELEXES

The stapedius and tensor tympani muscles act directly upon the ossicular chain, they cause alternation in tension and stiffness, as well as, movement of all structures to which they are attached . The tensor tympani not only increases the tension in the fibers of tympanic membrane, but also draws the malleus medially and forwards . If the incudostapedial joint is disrupted, the stapes can be seen to rock backward and outwards when the stapedius muscle contracts (Groves,1979).

The two muscles consist of many short striated and non-striated fibers, they make involuntary contractions during acoustic stimulation . The reflex contraction starts first in the striated muscles, and the contraction is kept by non-striated muscles (Bluestone, 1991) .

Acoustic reflex contraction of the intertympanic muscle can be evoked bilaterally by unilateral stimulation . The reflex arc is considered to consists of the input pathway starting from the cochlear hair cells and reaching either the facial (Stapedial reflex)

or trigeminal (Tensor tympani reflex), motor nucleus via the ventral cochlear nucleus, the superior olivary complex, and the medial longitudinal fascicles, and the output pathway originating from the motor nuclei and descending to the intertympanic muscle (Bluestone, 1991)

THE PHYSIOLOGICAL ROLE OF TYMPANIC MUSCLE REFLEX

The stapedius and tensor tympani muscles exert force in directions opposite to each other (anatomical antagonist), but perpendicular to the primary rotational axis of the ossicular chain (functional synergists) . Several functions are attributed to the tympanic muscle reflex reported by Bluestone, 1991 :

* Protective intensity control theory. It is reduction in transmission which is selectivly for lower tones, this protects the cochlea from excessive stimulation caused by loud noise .

* Accommodation or frequency selection theory. It supposes that in certain frequency, muscle contraction selectively increases hearing sensitivity.

* Fixation theory . The tympanic muscles have a simple and obvious function to provide stability or suspension for the ossicular chain.

* Prevention of aural harmonics.

THE COCHLEA

The fluid spaces of the cochlea:
The principal divisions of the fluid spaces in the cochlea are the perilymphatic space, consisting of the scala vestibuli and scala tympani, and the endolymphatic space, consisting of the scala media . Between the scala media and the scala tympani is the organ of corti, along the reticular lamina .

The endolymphatic and perilymphatic spaces extend along the inner ear . The perilymphatic space surrounds the membranous labyrinth and opens into the cerebrospinal fluid by way of the cochlear aqueduct . The endolymphatic space ,as well as continuing throughout the membranous labyrinth, is joined to the endolymphatic sac by means of the endolymphatic duct .

Endolymph is unique among the extracellular fluids of the body in that it has a high k^+ content, and a low Na^+ content, resembling intracellular fluid. Its electric potential, unlike that usually found inside cells, is strongly positive ranging from +50 to +120 mV with respect to the plasma . This positive endocochlear potential is an electrogenic potential, directly dependent on ion-pumping in the stria vascularis. More K^+ ions are pumped into the Endolymph than Na^+ ions out . Both ions are pumped against their concentration gradients, and therefore energy is required, this being supplied by ATP (Kuijpers and Bonting, 1969) .
Perilymphatic ionic concentrations are in the range of normal extracellular concentrations .

Cochlear Mechanics

The mechanical traveling wave in the cochlea forms the basis of the frequency selectivity . This wave was originally described by Von Be'ke'sy (1960).

The wave travels along the cochlea, comes to a peak, and dies away rapidly . High frequencies produce a travelling wave peaking near the base of the cochlea, whereas low frequencies produce a wave stretching further up to the apex. It is now known that single neurons of the auditory nerve have very sharp bandpass frequency filtering characteristics.

The mechanical response of the basilar membrane is very sharply tuned . (Sellick et al, 1982).

Transduction By Hair Cells

The process of signal transductuon in hair cells is becoming more clearly understood as a result of the advances that have been made in electro physiological recordings from hair cells. (Holton and Hudspeth, 1986). As the basilar membrane and organ of Corti are driven upwards and downwards by a sound stimulus, the stereocilia of hair cells are moved away from and towards the modiolus . This shear movement open the channels on stereocilia for ions to enter or leave the cell. (Corey and Hudspeth, 1979). Neurotransmitter is released in the synapses at the base of inner hair cells, and this gives rise to action potentials in the auditory nerve fibres.

The great majority of the afferent auditory nerve fibers make their synaptic contact with inner rather than outer hair cells . The role of inner hair cells is to detect the movement of the basilar membrane and transmit it to the auditory nerve . The outer hair cells generate the cochlear microphonics .

As the stimulus intensity is increased, the amplitude of basilar membrane vibration grows . The activation of the inner hair cells grows similarly and so also does the firing rate of auditory nerve fibres . (Pickles, 1986) .

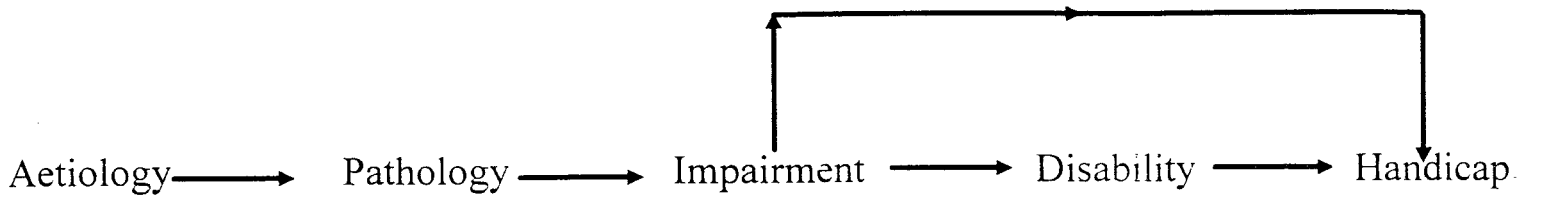
ACQUIRED HEARING LOSS IN LATE CHILDHOOD

In hearing loss essentially a causative agent or process leads to damage of the auditory pathway. This subsequently results in a loss of function whithin the auditory system which creates problems for the individual in real life situations.

Thus **aetiology** covers a wide range of conditions which may affect any part of the auditory pathway. Generally concern is with those parts affecting middle ear, cochlea or inner ear. These aetiological factors may be genetical or due to infection, toxins ,trauma, or may be due to systemic or metabolic causes. These aetiological agents result in changes in one or more parts of the auditory pathway, so constituting the **pathology**. Such changes as obstruction to ear canal, damage or changes affecting tympanic membrane or ossicles or damage to hair cells in the inner ear are irreversible certain aetiological factors may lead to pathology only in one part of the auditory pathway, e.g. noise exposure causing hair cell damage of the inner ear, while others such as measles or physical trauma may affect several different parts of the auditory pathway.

The **impairment** implies deranged function of one type or another. This may constitute an elevation of the hearing threshold. In other cases the impairment may constitute various distortions of sound. Often these distortions go in parallel with elevated hearing threshold. Impairment is generally defined on the basis of behavioral or electrophysiological measures, the most commonly used of which is the pure-tone audiometry.

Disability entails the auditory consequences of the impairment for the patient. While there is a general relationship between impairment and disability, in that those individuals with a severe impairment will tend to have a pronounced disabilities and those with a mild impairment have a minimal disability, there is considerable interindividual variability. However in children, even mild hearing loss can have a regative impact on child development (Nothern and Downs, 1984). Disability is generally assessed by asking the patient what problems are experienced because of hearing loss. Such interviewing may be done verbally or using a questionnaire. **Handicap** entails the general effects on the individual's life arising indirectly from the hearing loss. This may take the form of changes in the patient's psychology such as depression or changes in patient's pattern of behavior such as withdrawal from activities as seen in the following diagram :-



WHO schema for disabelments.

CAUSES OF ACQUIRED HEARING LOSS IN LATE CHILDHOOD

A good history, proper examination and full audiological evaluation will usually permit classification of the deafness, whether conductive, sensorineural, mixed or non-organic . (Adams and Kerr, 1983).

The conditions acquired during childhood which cause hearing loss are summarized as:

A) Conductive Deafness

Inflammation :
- otitis externa
- acute suppurative otitis media
- acute secretory otitis media
- chronic suppurative otitis media
- chronic secretory otitis media

Trauma :

Foreign body :

Neoplasms: rare.

B) Sensorineural Deafness

Infections :
- complication of otitis media
- viral labyrinthitis

Immunization

Autoimnune deafness

Meningitis

Ototoxic drugs

Trauma
Metabolic diseases.
Neoplastic diseases .

C) Mixed Deafness

Congenital abnormalities: Osteopetrosis
histiocytosis X
mucopolysaccharidosis

Acquired infections: This is the commonest cause of mixed deafness in childhood.

D) Non-organic Deafness (Psychogenic Deafness)

There are three types of this condition .

Functional (hysterical) deafness: This is apparent deafness in the absence of a pathological process affecting the auditory pathway . The deafness is a product of the subconscious . It is estimated that functional deafness is responsible for about 5% of all audiolagical clinic attendances . It would appear to be very uncommon under the age of 5 years.

It may be a reaction to stress, especially if the child is not doing well at school and the parents' expectations are unrealistically high . In some cases it is a means of identifying with another member of the family who has a hearing problem. The deafness may be moderate to severe with evidence of other psychological disturbances such as mutism, tremors, aggressive or withdrawal behaviour . The child's voice is usually unaltered with no deterioration in the quality of speech . These children often give different serial audiograms with better speech discrimination scores

than would be expected from the pure-tone readings . Clinically the child's hearing is usually much better than the audiogram would suggest .

Malingering : In this type there is intention on the part of the child to deceive. This is rare in children as most are not sophisticated enough to maintain the pretense for long and there is rarely the motivation for financial gain as sometimes seen in adults .

Organic Deafness With Psychogenic Overlay

Children with true ear disease occasionally appear to be much deafer than can be explained by the pathology .

In all three types of non- organic deafness, objective tests, including evoked response audiometry, will reveal the true hearing thresholds. These children present difficult management problems . It is important to stress to parents the need to avoid accusing the child of feigning a hearing loss . Attempts should be made to look for areas of conflict at home or school. This will often mean referral to a child psychologist or psychiatrist . These children must not be issued with hearing aids for fear of reinforcing their deafness . (Adams, 1987) .

Otitis media, whether suppurative or secretory is the most common cause of deafness in childhood (Tieri, et al, 1984) .

Otitis Media With Effusion

Otitis media with effusion is one of the commonest chronic otological conditions of childhood, Equivalent terms are chronic secretory O.M . Chronic otitis media with effusion (OME) indicates a middle ear effusion without pain, redness or bulging of the tympanic membrane (Gates, 1993) . It results from alteration of mucociliary system within the middle ear cleft where serous or mucoid fluid accumulates in association with negative pressure almost invariably caused by eustachian tube malfunction . Although there are no signs of inflammation, bacteria can be cultured from effusion in 50 % of cases. Chronic otitis media with effusion especially prevalent in children with cleft palate (Paradise et al, 1969) . It frequently occurs in association with chronic upper respiratory tract infections and conditions affecting the nose and sinuses.

There appear to be two broad categories of OME (1) persistent middle ear effusion and (2) secretory otitis media. However it is generally not possible to distinguish them on clinical ground . A great many cases of OME, especially in older children have a silent onset without a clinically evident antecedent AOM; however others, especially in younger, OME is often unresolved stage of AOM . (Gates, 1993). Factors that may be involved include ciliary dysfunction, mucosal edema and hyperplasia, viscosity of secretion, possibly a middle ear / nasopharyngeal pressure gradient, and bacterial exotoxin causing a reversible paralysis of middle ear cilia (Bakaletz, 1989) . The condition occurs in childhood as overt or covert hearing loss presenting as an educational or behavioural problem . In younger children it may present as speech and language delay . The classic findings of OME are retracted

hypomobile or immobile tympanic membrane, and a dark, fluid-filled tympanum that obscures visualization of the long process of the incus (Gates, 1989).

Chronic Suppurative Otitis Media

Chronic suppurative otitis media is typically a persistent disease, insidious in onset, often capable of causing severe destruction and irreversible sequele, and clinically manifests with deafness and discharge (Shenoi, 1987) .

The incidence of chronic suppurative otitis media appears to depend on race and socioeconomic factors which is the reason for the widespread prevalence of chronic suppurative otitis media in the third world .

Chronic suppurative otitis media is traditionally classified into two main groups-tubotympanic and atticoantral disease . Tubotympanic disease was considered " safe " from complications while the atticantral type was considered to be a dangerous` form of the disease in view of the risk of intracranial suppuration .

However, Browning, 1984 reported that persistent active infection whether associated with cholesteatoma , or persistent mucosal disease in the middle ear or in modified radical mastoidectomy cavity predisposes the patient to intracranial infection .

The classical symptoms in uncomplicated disease are of a long-standing history of unilateral or bilateral, painless otorrhea associated with deafness . In the tubotympanic-type of the disease,

the discharge is intermittent and mainly mucoid or mucopuruleat and is often precipitated by an upper respiratory tract infection, or may follow entry of water through a perforation after swimming, typically the discharge is non-odorous . In contrast, in the atticoantral-type the discharge is frequently scanty, but may be profuse in the presence of active mixed infection and, in addition to being malodorous, the ear is seldom dry . (Shenoi, 1987).

The presence of bloody discharge, facial palsy or a history of bloody discharge, facial palsy or a history of pain, vertigo, or severe headache are evidence of complications . Clinically tubotympanic disease present as : active disease; when the patient reports to the clinician with a discharging ear and / or deafness . The inactive disease: if bilateral the only presenting feature is deafness, while in unilateral disease the patient may not seek medical advice .

Clinical examination forms the main basis of assessing the activity, type and extent of the disease in chronic suppurative otitis media and includes naked eye inspection of the ear, otoscopy and examination of the ear under the microscope. It is imperative to assess the state of the upper respiratory tract by examination of the nose, pharynx and postnasal space. Inspection of the affected ear with a head mirror helps to evaluate the type of discharge in respect to its colour, consistency and odour.

Otoscopic examination is particularly useful in the evaluation of tubotympanic disease in its quiescent phase when the site and size of the perforation, the state of the remainder of the tympanic membrane, and the nature of the middle ear mucosa are noted. In atticoantral disease, otoscopic examination may reval the presence of a crust, polyp or granulations obscuring cholesteatoma

in the attic. A posterior retraction pocket may be associated with keratin debris and a necrosed lenticular process of the incus with granulations over the deep meatal margin. Microscopical evaluation of the ear with active chronic suppurative otitis media is essential to formulate a policy of management. The bacteriological assessment in active chronic suppurative otitis media should include a culture and sensitivity test from an ear swab for both Gram-positive and Gram-negative aerobes and a separate swab for anaerobic culture.

The audiological assessment in chronic suppurative otitis media must commence by assessing the hearing with a tunning fork (512 or 1024 frequency) and a Bárány noise box. An accurate pure tone audiogran with appropriate masking for air and bone conduction is carried out. A speech audiogram with masking is also advisable. (Shenoi, 1987).

Meningitis

Meningitis is a common cause of deafness in early childhood and still one of the serious infectious diseases in clinical practice. Rahko et al ,1984, considered that deafness was due to labyrinthitis following spread of infection through the cochlear aqueduct, internal acoustic meatus or endolymphatic duct. It would appear, in some cases, that either the onset or detection of deafness may be delayed for up to 6 months after the illness. About 10% of children with meningitis will develop some degree of hearing loss. In some children the initial hearing loss in bacterial meningitis will recover within 6 months (Munos et al., 1983). Haemophilus influenza is responsible for about 45% of cases of bacterial meningitis, especially in children aged 2 months to 4 years. Neisseria meningitides causes 15-25% of bacterial meningitis. It is probably

most dangerous with respect to hearing loss, causing about 50% of all deafness from meningitis (Rahko et al., 1984). Streptococcus pneumonia is estimated to cause 20-25% of cases of meningitis. It is often accompanied by acute otitis media (Schuknecht, 1974). Aust, 1994, reported that 76.4% of children suffering from meningitis developed sensorineural hearing loss which varied between mild hearing loss and total deafness.

Viral Affection Of The Inner Ear

Various different viral agents have been identified as pathogenic in the ear. These include mumps, measles, herpes simplex, herpes varicella-zoster and influenza viruses.

Davis,1982, provided the first experimental evidence for viraemic spread to the ear and it seems likely that this is the common route by which the viruses reach the auditory system. Labyrinthitis may also be caused by extension of infection from the meninges.

Mumps: The deafness of mumps is usually of sudden onset, occurring within the first week of infection. In some cases the deafness may follow sub-clinical infection. The loss may affect the higher frequencies only, but more commonly is profound. It is usually unilateral, but may on occasions affect both ears (Veltri et al., 1981).

Measles: Schuknecht, 1974, reported the incidence of deafness with measles as a suspected cause of hearing loss to be about 4 - 10% of population of deaf children.
The hearing loss tends to be bilateral and moderate to severe.

Reye's Syndrome: This is acute, and sometimes fatal illness usually starts during recovery from a viral illness especially influenza and varicella.

It has been linked to the use of aspirin in children. Clinically the child's condition deteriorates with vomiting, lethargy or irritability. In severe cases cerebral edema will progress to coma and death. The inner hair cells of the organ of corti were damaged more severely than the outer cells with various degrees of degeneration of non-sensory epithelial cells lining the cochlear duct. Similar lesions were found in the vestibular end organs (Rarey et al., 1983).

Immunization

Tetanus immunization and antitoxin are known to cause peripheral neuropathies in some patients. Mair and Elverland, 1977, reported occurrence of deafness after tetanus immunization; while Adams, 1987, reported occurrence of bilateral sensorineural severe hearing loss after triple vaccination.

Autoimmune Sensorineural Hearing Loss

Immunological destruction of the auditory and vestibular systems is a recognized feature of many diseases (Naclerio, 1985). Damage may occur in several ways. Immune complexes lodge in the micro circulation of the ear causing obstruction and hypoxia in the distal tissues. Complement fixation may cause a vasculitis with subsequent inflammatory response. It is also possible that there is

an inappropriate direct immune reaction against cells derived from the neural crest.

Ototoxic Drugs

The potential ototoxicity of many drugs is well recognized, the two most important groups being the loop diuretics and the aminoglycoside antibiotics.

There are few reports of deafness due to the administration of aminoglycosides and loop diuretics either during pregnancy or childhood (Crifo et al, 1980).

Bernard, 1981, demonstrated alterations in the brain stem evoked potentials of preterm babies due to conventional doses of amino glycosides.

Management Of The Hearing Impaired Child

The effects of auditory deprivation and poor communication ability on the child's social, psychological and educational development are well recognized (Boothroyd, 1982); and the benefits of early detection and initiation of management of deafness have been known for many years (Ewing, 1975).

The importance of mild degrees of deafness, either conductive or sensorineural is not yet fully understood. Some authors have suggested that children with recurrent or chronic middle ear problems show evidence of delayed language development and educational achievement (Hamiolton, 1972).

Others have advocated caution in attributing language disorders and learning disabilities to middle ear problems (Leviton, 1980).

Deafness in children is discovered in one of the following ways: the child fails a screening test of hearing; the child is known to be at risk of having a hearing loss; parental suspicion or the child fails to develop speech and language in the normal way.

Screening tests of hearing are performed in an attempt to identify those children in need of further investigations.

A Family history of deafness, exposure of the fetus to a known pathogen, or a difficult birth increases the possibility of a child having a hearing loss (Parving, 1984).

If parents suspect their child to be deaf they are rarely wrong. Parving, 1984, found that in more than one half of the hearing impaired children in his study group, the parents were the first to suspect hearing loss.

Some of children who fail to develop speech have a hearing loss, although others have specific language disorders, emotional problems or mental retardation. There may be a complex combination of these disorders. There is also no doubt that some of these children have been missed by the earlier screening test. Children who fail screening tests or otherwise suspected of having a hearing loss should be referred to an otolarygologist or audiological physician for further assessment. The aims of this should be as follows:

- to determine if a hearing loss is present. Many children

referred are found to have normal hearing.

- to determine the severity of hearing loss

- to decide on the type of deafness, whether conductive or sensorineural

- to determine, if possible, the age of onset of deafness. Prelingual deafness has more serious implications for the child

- to look for other relevant handicaps.

The greatest number of children with hearing impairment tested in out patient clinics have conductive deafness, usually caused by otitis media with effusion. Children with sensorineural hearing impairment present much greater management problems. Modern techniques including evoked response audiometry, tympanometry and radiology, make possible a reliable identification of sites of lesions and hearing threshold (Parving, 1985).

Testing And Screening Of Hearing In Late Childhood

When testing the hearing of young children different methods may be used from those employed for adults, but the information that is being sought is similar (Flexner and Gans, 1985). The aim is to identify as accurately as possible the threshold of hearing at a range of frequencies in both ears and to identify the nature and cause of any hearing impairment that may be present. As the main effect of hearing loss in young children is on their verbal

communication skills, the tests of threshold are supplemented as early as possible by tests of speech discrimination (Haggard et al, 1984). Screening tests, whatever their nature, are designed to identify two groups of children, those with normal hearing and those who fail the screen and need definitive testing as above. (Fisch, 1981).

If a hearing loss is identified by testing , the child will then need further investigations and following this may undergo corrective surgery or may enter a rehabilitative programme. (Bluestone et al, 1983).

The behavioural response to sound matures with the child's development in the same way as other skills, (Durieux-smith and Jacobson, 1985). Before a tester can start to assess the hearing of children, it is essential to have a good working knowledge of how these responses develop in a normal child. It is also necessary to understand the normal development of the child in other fields, as the hearing responses and communication skills have to be related to the child's overall level of maturation. (Flexner and Gans, 1985).

As the child gets older, he/she becomes increasingly able to inhibit the earlier, ready response to sound. Such a child will usually turn to a particular stimulus on the first presentation only, and will subsequently appear to ignore the sound. There is a developing ability to recognize background sounds without visual confirmation so that many sounds do not seem to be recognized at a conscious level. At the same time there develops an ability consciously to avoid turning to sounds when anticipated, for example during testing. (Ewing, 1975).

When testing children, it is very important to use the appropriate methods for the child's overall developmental stage and this must be roughly assessed prior to starting the test. (Cramer and Erber, 1974).

Clinical Testing In Children

The diagnostic test used depends on the child's chronological and developmental age.

Startle reaction to speech (56 dB)	Any age from birth.
Stilling to sound	6-16 weeks
Distraction tests	4-30 months
Visual reinforcement audiometry	6-30 months
Conditioning audiometry	From 2 years
Pure tone audiometry (air and bone)	From 30 months
Audiometry with masking	From 5 years
Speech tests	From 21 months

Pure Tone Audiometry

The extent of hearing impairment is usually measured primarily in terms of loss of sensitivity. Pure-tone audiometry involves estimating the threshold of hearing for certain standardized stimuli, usually via the air-conduction (a-c) and bone cone conduction (b-c) routes. The standards are specific to particular audiometric test frequencies. For air-conduction, frequencies of 0.125, 0.25, 0.5, 1, 1.5, 2, 3, 4, 6 and 8 kHz are included; for bone conduction at least the following are included: 0.25, 0.5, 1, 2, 3, and 4 KHz, although there is some variation between national standards.

The audiometer itself must conform to appropriate standards (Lutman, 1983).

During an assessment of hearing, it is essential to know not only the frequency of sound to which the child responds, but also the intensity of the quietest sound responded to at each frequency. The child must accept the headphones to proceed to an audiogram. (Fisch, 1981).

Speech Tests

From a functional point of view the most important measures of a child's hearing is the ability to hear and discriminate speech. In older child, speech detection and discrimination tests can be carried out in a similar way to tests on adults. This is by presentation of phonetically balanced words Through headphones with the instruction to the child to repeat the word / sound that they hear, with scoring for correctly heard phonemes. (Haggard et al, 1984).

Objective Tests Of Hearing

. Impedance Audiometry

The are three measurements used in impedance audiometry, the middle-ear compliance, the tympanogram and acoustic reflex .

Many young children do have middle ear abnormalities, the most common being the temporary presence of fluid . Impedance audiometry gives particularly useful information on middle ear function, which can aid diagnosis and also monitor progress in young children with conductive hearing losses. (Bennett and Mewat, 1981). Acoustic reflex measurements are used in more

detailed assessment of a sensorineural hearing loss, to distinguish a cochlear from a neural lesion . In an ear with a cochlear disorder Jerger and Hayes, 1984, demonstrated the decline in the acoustic reflex sensation level in proportion to the degree of hearing loss . A combination of acoustic reflex threshold measurement and reflex decay was felt to be reasonably sensitive in eighth nerve lesions (Olsen et al, 1975) .

Evoked Response Audiometry

The usual aim of such tests in children is to gain an indication of hearing threshold in those who are too young or handicapped to be tested by subjective methods . Present techniques include electrocochleography and auditory brain stem evoked responses . (Sohmer and Kinarti, 1984).

School Screening

Fisch, 1981, has demonstrated that school screening was very effective and should be extended to all areas. A sweep test is frequently employed using a stimulus of 20 - 25 dB HL at frequencies 250 Hz - 4 kHz, and this is supplemented in some cases by speech tests and tympanometry.

Bennett and Mowat, 1981, reported on the validity of impedance measures in school screening.

Haggard et al, 1984, argued that the best combination of tests for school screening would be otoadmittance measures to identify pathological problems, and a speech test in noise on those who

failed the first screen to identify those with hearing disability. These latter children would then be referred for further assessment.

DEPRESSION IN CHILDHOOD

The idea that children can develop conditions that are the same as these depressive disorders of adults has been controversial (Rutter, 1986).

Only in 1980s was depression clearly acknowledged as a clinical phenomenon occurring in children and adolescents. The use of symptom-oriented personal interviews with children has now led to widespread recognition that disorders resembling adult depression can and do occur in childhood (Harrington, 1994).

* Clinical Features

The syndrome of depression is defined by the combination of depressed mood with certain associated symptoms particularly a negative style of thinking, loss of enjoyment, and somatic symptoms such as loss of energy and reduced sleep (Harrington, 1994).

Toolan, 1981, showed that the manifestations of depression in children differ depending on their age and developmental stage, as younger children with age ranging from 5-8 years verbalize feelings of sadness more directly whereas older children (8-12) years old are more likely to show increasingly poor self esteem, as children pass through adolescence, guilt themes become more prominent and the depressive syndromes resemble those of adults; **this variation in the expression of disturbed mood in childhood is probably due to three developmental issues;** the substantial age differences in the occurrence of most forms of affective phenomena

(Rutter, 1986). Secondly, children differ from adults in their ability to experience some of cognitive features said to characterize adult depression such as guilt (Rutter, 1986). Thirdly, the valid application of adult criteria to children requires not only that they are capable of experiencing depression, but also that they can report it accurately (Rutter, 1986). Several investigators suggest that it might be better to identify age-appropriate symptoms of depression that take into account the child's level of functioning in the various cognitive and affective domains (Harrington, 1991).

* Diagnostic Criteria (DSM-IV & ICD10)

The diagnostic criteria in the fourth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) for major depressive disorder, dysthymic disorder, and bipolar I disorder are the same for children and adolescents as they are for adults with some minor modifications. (Kaplan et al, 1994). The modifications in the criteria for childhood and adolescence major depressive disorder include irritable mood; and failure to gain expected weight. In dysthymic disorder; also irritable mood can replace depressed mood, and the duration criterion has been modified to one year instead of two years in adults. The criteria for bipolar I disorder are the same for children and adolescents as for adults.

Generally, depression in children could be conceptualized as having a basic similarity with adult-onset depression, but with some age-specific features (Harrington, 1994).

DSM-IV differentiates between mood disorders in which there may or may not have been episodes of mania (bipolar disorders and depressive disorders respectively). The two major mood disorders are major depressive disorder and bipolar I disorder.

Two additional mood disorders which are more chronic in course and with less severe symptoms are dysthymic disorder and cyclothymic disorder. (Kaplan et al., 1994). DSM - IV has codified additional mood disorders related to depression namely: Minor depressive disorder; recurrent brief depressive disorder and premenstrual dysphoric disorder, in which there is functional impairment although symptoms are less severe or less in duration.

ICD-10 (World Health Organization, 1992) makes an explicit distinction between unipolar and bipolar disorders, and also ICD-10 distinguish between milder forms of affective disorders and severe affective disorder which are mostly included under mood disorders (Harrington, 1994).

* Epidemiology

The use of similar diagnostic criteria together with more comparable methods of data collection has led to greater consistency in estimates of the prevalence of current rates in the range from 0.5-2.5% in preadolescents (Velez et al., 1989). However epidemiologicol studies of adolescents have generally reported higher prevalence, with current rates of major depression ranging from 2.0-8.0% (McGee et al., 1990),

indicating that mood disorders increases with increasing age. (Kaplan et al., 1994).

There are also strong age trends for depression-related conditions such as suicide which shows a huge rise over the adolescent years (McClure, 1988).

On the other hand Carlson ,1979, reported a 16% occurrence rate of severe depression in pediatric population and other study conducted by Earls ,1984, confirmed an increase in the rates of depression from middle childhood through life to adulthood, adolescent`s rate of depression remain constant being 8.6%.

Some studies showed that there is equal sex distribution of depression in children (Velez et al ,1989) other studies confirmed male preponderance (Anderson et al., 1987). In contrast to a recent study conducted by Larson and Melin, 1992, which showed that girls experienced more depressive symptoms than boys in a sample of 471 schoolchildren aged 8-13 years.

This female preponderance is much more evident in adult depression (McGee et al., 1990). Angold and Rutter, 1992, suggested that the switch begins at around the age of 10 years, with rates of depression increasing steadily in both boys and girls, but with the increase being more marked in girls.

Etiology

Considerable evidence indicates that the mood disorders are the same fundamental disease or disease group regardless of age of onset. (Kaplan et al., 1994).

Genetic Influences:

A- Genetic predisposition

Interest in the genetics of depressive disorders arising in childhood has been stimulated by data from different studies, the most important was the cross-sectional and longitudinal studies of children of depressed parents which have found that they have greater than expected rates of depression (Weissman, 1992), however, this risk seems non specific as non depressive symptoms are increased as well. Other studies reported high rates of affective disorders among relatives of depressed children probands, the most recent study was conducted by Harrington et al., 1993, who reported that the lifetime prevalence of depression in first degree relatives of depressed children proband was significantly higher than depression in relatives of control children, and that the higher rates of depression were found to be among the female relatives of both control and depressed probands.

Goodyer et al., 1993, proposed that the increase in the life time prevalence of depression in relatives of depressed children may

be due to that these families become life event-prone as a result of parental psychopathology. Yet family studies cannot discriminate effectively between genetic and environmental mediation, the best discriminator is the twin study.

B- Biological Mechanisms

Studies of prepubertal major depressive disorder and adolescent mood disorders have revealed biological abnormalities (Kaplan et al., 1994). Deakin and crow, 1986, proposed that depression results from hypo activity of monoamine reward systems.

Several studies of young people with depressive disorders have reported abnormalities of the biological markers that are thought to reflect the activity of these systems (Yaylayan et al., 1992). The major implicated transmitters are monoamines, indoleamines and catecholamines, with indications that deficits in these agents would produce depression, whereas excesses would produce mania. It should also be borne in mind that early-onset depressive conditions are likely to be biologically heterogeneous (Goodyer et al., 1991). Noradrenalin, acetylcholine, and serotonin in certain levels have all been indicated as present in those suffering from depression. These agents regulate neuroendocrine levels controlling hormone production and in some cases pituitary functioning.

C- Psychosocial

Research on the psychosocial correlates of childhood depression is at an early stage. (Harrington, 1994), some researches showed the impact of parental depression on the child and its influences on the child's environment (Rutter, 1990). Yet this path may be bi-directional as child characteristics can elicit negative parental reactions, which in turn increases the risk for psychopathology in the child.

It was found that in depressed young people acute life events often occurred in the context of long standing problems, although the relationship between stress and the type of emotional disorder that occurs in the child appears to be non-specific as in the presence of acute adversity children are equally likely to become anxious as they are to become depressed (Goodyer et al., 1988).

Depressive symptoms have been found in association with many types of adverse life experiences such as divorce (Aro and Palosaari, 1992), disasters (Yule et al., 1990), bearevement (Kranzler, 1990) and physical and sexual abuse (Goldston et al., 1989).

D- Psychological

Many Psychological models have been devised to explain the links by which external stresses lead to the internal mood state of depression. At the root of the psychodynamic formulation of depression was Freud's, 1957, idea of the actual or perceived loss of

the love object. This loss was followed by self-rejection and self criticism, the anger toward the parent turned inward.

Recently Kohut, 1971, redefined depression in terms of self psychology when self object needs for mirroring, twinship or idealization are not forthcoming from significant people; the depressed person feels a sense of incompleteness and despair as not receiving the longed-for response. Seligman, 1975, introduced the concept of "Learned helplessness" positing that when people can not influence events in their lives that very experience or expectation leads to depression.

The reformulated learned helplessness theory now called the hopelessness theory (Abramson et al., 1989) and has many similarities with the so-called cognitive theories of depression.

The occurrence of such cognition has been documented in several cross-sectional studies of depressed children, whose distorted style of processing self-evaluative information distinguished them from children with other psychiatric disorders. (Kendall, 1992).

A recent psychological construct is the competence theory, which provides evidence of an association between perceived incompetence and depressive symptoms (Adams and Adams, 1991).

Assessment

Assessment of depression in young people should starts with a thorough evaluation of depressive symptomatology. Efforts to improve the reliability and validity of the diagnosis have been focused on two areas: the development of standardized assessment instruments and biological tests .

I Clinical Interviews

Several standardized interviews have been devised for use with children and many of them will generate depressive diagnoses as a result structured psychiatric interviews are being used more as a diagnostic tools in clinical settings (Harrington, 1994).

The most frequently identified instruments in the literature are the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) (Chambers, 1985) which include both parent and child versions.

A more structured interview is the Diagnostic Interview Schedule for Children-Revised (DISC-R) which is applicable to children between 8 and 17 years of age, with both parent and child version. Nevertheless, there are several unresolved difficulties, The first one is the test-retest reliability as affective symptoms are particularly unstable in the younger age group. The second is the low agreement between parent and child on depressive symptoms (Barret et al., 1991).

Unstructured interview remains the most commonly employed though not necessarily the most efficient. Most of the unstructured approaches employ open-ended questioning to obtain information.

Palmer, 1983, addressed three major issues needed to be included in unstructured interview; the child's own view of his or her complaints symptoms and stressors; the child's view of environment and current level of functioning, and the child's view of his or her developmental history.

II Chick Lists and Inventories:

Self report questionnaires provide a convenient way of screening for symptoms that are not part of the presenting complaint, and may be helpful in monitoring subjective feelings (Harrington, 1994).

A number of factors need to be considered in selecting an instrument to assess depression among the young, as some of these scales may be used as discriminator between depressed and non depressed children, or as a measure for change in the course of treatment of depression (Costello and Angold, 1988). In research settings, questionnaires have been used both as primary source of data and as a screening instrument to select subjects for further in-depth interviews. (Harrington, 1994). The most currently used appear to be the Children's Depression Inventory (CDI; Kovacs 1981) which is designed to assess cognitive, behavioral and affective signs of depression.

III Psychobiological Measures

No single laboratory test is useful in making a diagnosis of a mood disorder (Kaplan et al., 1994). Dexamethasone-suppression test (DST), was initially thought to be of diagnostic usefulness, however several recent studies have shown that in both children and adolescents the DST is a poor discriminator between depressed and non depressed cases (Tyrer et al., 1991).

Indeed, one study of depressed adolescents found abnormalities of nocturnal growth hormone secretion (Kutcher et al., 1991).

A screening test for thyroid function can rule out the possibility of an endocrinological contribution to a mood disorder. (Kaplan et al., 1994).

Comorbidity

DSM-IV and ICD-10 take different approaches to the overlap between depression and other child psychiatric problems. In DSM-IV there is no separate category for conditions characterized by two problems. Rather, it is assumed that comorbidity between depression and other psychiatric conditions represents the co-occurance of separate disorders. By contrast, in the ICD-10 the expectation is that mixed clinical picture is more likely to mean a single disorderwith varied manifestations. (Harrington, 1994).

It seems that most children who meet research criteria for depressive disorders are given a primary diagnosis of other disorders this has been consistent finding from research population, where an association has been found with conditions as diverse as conduct disorder (Harring ton et al., 1991), anxiety states (Bernstein and Garfinkel, 1989) including school refusal. Anderson, et al, 1987, reported in his study that anxiety disorders was the major comorbid disorder; followed by attention deficit disorder and conduct disorder. McGee et al, 1990, reported that adolescent with depressive disorders seem to be more likely to have an additional psychiatric condition than depressed adults.

Finally, it should be borne in mind that depressive disorders may present not only with non depressive psychiatric symptoms but also with somatic complaints. Conversely physical conditions or endocrine disorders may be associated with significant depression. (Harrrington, 1994).

ANXIETY DISORDERS IN CHILDHOOD

Anxiety is a universal phenomenon and commonest single cause of ill health. The growing knowledge of the biology of anxiety moved the anxiety disorders through various classifications on the basis of valid and reliably recognizable clinical criteria (Kaplan et al, 1994).

Definitions

Anxiety is an enduring response to an internal cue without an obvious external threatening cause precipitating reaction (Carter, 1990). Barrios and O'Dell, 1989, defined anxiety as a dysphoric aversive feelings, similar to fear, that arises without an obvious external threat . It may be either transitory or present throughout the life of the individual, and it may be a primary physiological state or a symptom of an underlying somatic disease or toxic condition. It may occur after trauma, but more frequently no precipitating event can be identified . The main characteristic is a constant feeling of tension that persists in absence of threat.

On the other hand, Okasha, 1987, defined anxiety as a state of uneasy concern in response to external events or inner thoughts and feelings or, in psychoanalytic theory, due to conflict associated with unconscious repressed impulses . It may be experienced as an unpleasant emotion with elements of fear and dread ; it may be expressed verbally, or in other behaviour, and in a characteristic state of physiological arousal . The experience and expression of

anxiety are normal when appropriate to and focused on particular situations . When they are free floating, pervasive and excessive, they reflect an abnormal or pathological state .
Normal anxiety however is commonly experienced by virtually all humans, with a vary constellation of symptoms .

Anxiety As State Or Trait

Researches of Catell and Scheier, 1961, has led to anxiety being conceptualized both as a relatively enduring personality characteristic that is manifested at varying degrees and independent of circumstances (trait anxiety), and as a generally transitory state that is associated with an identifiable stimulus or even with variations in intensity related to the traumatic impact of the experience (state anxiety). Individuals manifesting trait anxiety do not require provoking circumstances, and their anxiety is likely to exert a constant influence upon their behavior . The origin of this anxiety may be related to inherent temperamental factors (Wolfson et al, 1987), parental and family factors (Goodyear, et al, 1988), or other prior life experiences, yet persists to become an integrated part of the individuals personality, resulting in a chronically higher level of anxiety, but not necessarily a more intense anxiety than that experienced by others . In children however this distinction between state and trait is complicated by the interplay of developmental factors; it appears that the trait versus state anxiety distinction has limited utility in understanding childhood anxiety (Goodyear et al, 1988).

Distinction Between Normal And Pathological Anxiety

It is especially problematic to establish the limits between normal behavior and pathology for anxiety, since many childhood anxieties are not only common, but they may also play an adaptive role in human development .

The mere fact that anxiety falls on a continuum of severity does not preclude the presence of qualitatively distinct disorders at the extremes (Klein, 1994) .

Anxiety may become symptomatic at any age when it prevents or limits developmentally appropriate adaptive behaviour . What are the standards for diagnostic decisions? A useful rule of thumb is the child's ability to recover from anxiety, and to remain anxiety-free when the provoking situation is absent (Klein, 1994) . Klein, 1994, defined three clinical features impringe on the definition of pathological anxiety . Two of these, distress and dys-function, vary in importance as a function of developmental stage . The third, symptomatic inflexibility, is diagnostically important regardless of age . Although two major epidemiological studies have reported that the rates of all psychiatric disorders in children are markedly reduced by requiring functional impairment (Bird et al, 1990, Weissman et al., 1990)

Diagnosis Of Anxiety Disorders

Anxiety as a symptom can be associated with many psychiatric disorders, in addition to the anxiety disorders themselves (Kaplan et al., 1994) .

The ICD-10 and DSM-IV have very similar approaches to the classification of anxiety disorders, but differ in several ways .

DSM-IV ANXIETY DISORDERS

DSM-IV lists the following anxiety disorders

1. Panic disorder with and without agoraphobia
2. Agoraphobia without a history of panic disorder
3. Specific and social phobias
4. Obsessive-compulsive disorder
5. Post traumatic stress disorder
6. Acute stress disorder
7. Generalized anxiety disorder
8. Anxiety disorder due to general medical condition
9. Substance induced anxiety disorder
10. Anxiety disorder not other wise specified, including mixed anxiety-depressive disorder (American psychiatric association, 1994).

Separation anxiety disorder is the only anxiety disorder currently contained in the child and adolescent section of DSM-IV. In contrast the child and adolescent section of revised 3rd edition of DSM (DSM-III-R) included overanxious disorder and avoidant disorder of childhood or adolescence in addition to separation anxiety disorder .

In DSM-III-R, overanxious disorder was marked by excessive anxiety unrelated to separation issues . Children with

symptoms consistent with overanxious disorder are currently covered by the DSM-IV adult category of generalized anxiety disorder . In the DSM-III-R category of avoidant disorder of childhood or adolescence, a child exhibited warm and satisfying relationships with family members but avoides contact with unfamiliar people, children with symptoms of avoidant disorder meet the DSM-IV diagnostic criteria for social phobia which is also used for adults . Children may also present with anxiety disorders described by DSM-IV, including specific phobia panic disorder, obsessive compulsive disorder and post traumatic stress disorder (Kaplan et al., 1994).

Separation Anxiety Disorder

Developmentally inappropriate and excessive anxiety emerges concerning separation from the major attachment figure (Kaplan et al., 1994).

As cognitive development proceeds during the first year of life and the infant acquires object constancy, fear of strangers and distress upon caretakers departure emerge, and separation anxiety appears (Lewis and Brooks, 1974). In most of anxiety disorders, there is congruence between the developmental timing of normal and abnormal forms of these affective states, exceptionally, the onset of maladaptive separation anxiety does not fit this pattern the peak age in community and clinical samples is reported in late childhood rather than infancy (Last et al., 1992) this goes well with the DSM-IV criteria for diagnosis, yet it does not fit the ICD-10 classification which requires onset before age of six (Klein, 1994).

Clinical picture: according to DSM-IV the patient exhibit peripheral manifestations of anxiety, plus concerns about death, dying and the integrity of the family or the major attachment figure.

DSM-IV

Diagnostic Criteria for separation Anxiety Disorder

A. **Developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached, as evidenced by three (or more) of the following:**

1. **Recurrent excessive distress when separation from home or major attachment figures occurs or is anticipated.**
2. **Persistent and excessive worry about losing, or about possible harm befalling, major attachment figures .**
3. **Persistent and excessive worry that an untoward event will lead to separation from a major attachment figure .**
4. **Persistent reluctance or refusal to go to school or elsewhere because of fear of separation .**
5. **Persistently and excessively fearful or reluctant to be alone or without major attachment figures at home or without significant adults in other settings.**
6. **Persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home.**
7. **Repeated nightmares involving the theme of separation.**
8. **Repeated complaints of physical symptoms (such as headaches , stomachaches , nausea , or vomiting) when separation of major attachment occurs or is anticipated.**

B. The duration of the disturbance is at least 4 weeks.

C.. The onset is before age 18 years.

D. The disturbance causes clinically significant distress or impairment in social, academic(occupational), or other areas of functioning.

E. The disturbance does not occur exclusively during the course of a pervasive developmental disorder, schizophrenia, or other psychotic disorder and in adults and adolescents, is not better accounted for by panic disorder with agoraphobia specify if:
Early onset : It onset occurs before age 6 years.

Typically the child will refuse to visit friends or go to school, this latter situation pertaining to school has been referred to as school refusal, which represent school phobia, however often it is a part of the larger picture of separation anxiety. DSM-III-R retain the term school phobia for those cases in which anxiety and fear reactions occur on account of school perse, and when school refusal is due to fear of being separated; separation anxiety is the more appropriate term. School refusal prevalence is 1-2% of school aged children, and appears to peak during periods of major traumas and transitions as first beginning school. Generally separation anxiety disorder is the most common anxiety disorder in childhood (Cantwell and Baker, 1988) and it is more common in young children than in adolescents, and has been reported to occur equally in boys and girls with onset most commonly seen in 7-8 year olds

(Kaplan et al., 1994). Cantwell and Baker, 1988, estimated prevalence of separation anxiety disorder to be 3-4% in all school age children.

Generalized anxiety disorder: The DSM-IV has eliminated overanxious disorder, which was the childhood variant of generalized anxiety disorder . Instead, children may receive a diagnosis of generalized anxiety disorder as in the case in ICD-10 (Klein, 1994) . Wervy, 1991, was the first to show overanxious disorders ' poor validity, and scrutiny of the diagnostic criteria for overanxious disorder reveals its ambiguities. Overanxious disorder in DSM-III-R characterized by chronic and excessive worry and fearful behavior.

Typically, the child is worried about future events, if he or she will do well enough on whatever task with an element of perfectionistic tendencies, obsessional self doubt and approval seeking from others .

Now overanxious disorder in DSM-IV has combined with generalized anxiety disorder, focuses on over concerns, not reflected in other anxiety disorders, such as worries about untoward events.

Generalized anxiety disorder is defined in DSM-IV as excessive and pervasive worry, accompanied by a variety of somatic symptoms, that causes significant impairment in social or occupational or marked distress in the patient . The primary symptoms of generalized anxiety disorder is similar to that of DSM-

III-R overanxious disorder which include: motor tension, autonomic hyperactivity and cognitive vigilance (Kaplan et al., 1994); behaviorally the child may exhibit such nervous habits as nail bitting or thumb sucking.

DSM-IV
Diagnostic Criteria for Generalized Anxiety Disorder

A. Excessive anxiety and worry (apprehensive expectation) occuring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).

B. The person finds it difficult to control the worry.

C. The anxiety and worry is associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past six months).

Note: only one item is required in children.

1. **restlessness or feeling keyed up or on edge.**
2. **being easily fatigued.**
3. **difficulty concentrating or mind going blank.**
4. **Irritability.**
5. **muscle tension.**
6. **sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep).**

D. The focus of the anxiety and worry is not confined to

features of an Axis I disorder, e.g. the anxiety or worry is not about having a panic attack (as in panic disorder), being embarrassed in public (as in social phobia), being contaminated (as in obsessive-compulsive disorder), being away from home or close relative (as in separation anxiety disorder), gaining weight as in anorexia nervosa), having multiple physical complains (as in somatization disorder), or having a serious illness (as in hypochondriasis), and the anxiety and worry do not occur exclusively during post traumatic stress disorder.

E. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning .

F. The disturbance is not due to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition (e.g. Hyperthyroidism), and does not occur exclusively during a mood disorder, psychotic disorder, or a pervasive developmental disorder.

(American Psychaitric Association, 1994)

Obsessive-Compulsive Disorder

Obsession is a recurrent and intrusive thought, feeling, idea, or sensation; while compulsion is a conscious standardized recurrent thought or behavior (Kaplan et al., 1994) .

Obsessive-compulsive disorder is classified as a separate disorder under the heading of Neurotic stress-related and somatoform disorders in ICD-10 .

The rationale for its inclusion as an anxiety disorder in the DSM-III (American Psychiatric association, 1980) relates to the organizational principles of the DSM-III; the anxiety disorders provided the least in congruous locus for it (Klein, 1994).

Whereas DSM-III-R defined obsessions as thoughts and compulsions as actions, DSM-IV introduces the clinical observation that thoughts (that is, mental acts) can be either obsessions or compulsions, depending on whether they increase anxiety (obsessions), or reduce anxiety (compulsions).

Until recently, obsessive compulsive disorder was unfamiliar to most child psychiatrists, however Karno and Golfing, 1990, reported that 50% of obsessive compulsive patients developed symptoms in childhood or adolescence, with age onset as early as two years (Rapoport et al., 1994). Clinically obsessions dealt primarily with contamination, danger to self or others, symmetry or moral issues.

A combination of rituals and obsessions was most common, and pure obsessives were rare compared with more frequent pure ritualizers .(Rapport et al., 1994) .

Panic Disorder

Panic disorder is characterized by spontaneous, unexpected occurrence of panic attacks (Kaplan et al., 1994) . Panic attacks are relatively short-lived, usually less than one hour, periods of intense anxiety or fear which are accompanied by somatic symptoms such as palpitation and tachypnea (Kaplan et al., 1994) . DSM-IV does make panic disorder the predominant disorder in a dyad as it contains diagnoses for panic disorder with or without agoraphobia; yet panic disorder with agoraphobia is unknown before age 18 (Kaplan et al., 1994) . Much interest currently exists regarding the prevalence of these phenomena in children and adolescents . Ollendick et al., 1994, reported that panic attacks are common among adolescents, while both panic attacks and panic disorders appear to be present, but less frequent, in children . The peak age of onset was reported to be between 15 and 19 years, with 18% of adults indicating onset before 10 years of age, with clinical presentation similar to that found in adults (Moreau and Weissman, 1992) . Obviously whether panic disorder occurs at all in preadolescents, it is still an unresolved issue, but it seems clear that if it does, it is very rare (Klein, 1994). The most common previous psychiatric disturbance was separation anxiety disorder, which suggests that separation anxiety disorder may be a precursor to panic disorder, or perhaps an early form of it in some children (Ollendick et al., 1994) .

Epidemiology

Unexpectedly, epidemiological studies have observed high rates of anxiety disorders in children and adolescents as well as in adults (Christi et al., 1988) . Interest in childhood anxiety has been heightened by reports that early onset characterizes adult anxiety disorders (Christi et al., 1988) .

A study by Benjamin, et al, 1990, conducted psychiatric interviews with 789 child and their parents, with ages ranging from 7-11 years, using Diagnostic Interview Schedule for Children (DISC), showed a 1 year-prevalence of anxiety disorders 6.6% based on parent interview and 10.5% based on child interview, based onDSM-III diagnostic criteria.

Separation Anxiety Disorder reported to be the most common of the anxiety disorders occurring in childhood, according to Anderson et al., 1987, the one year prevalence in prepubertal children has been 3.5 to 4.1 percent, with girls to boys ratio 3:1 . However, Kaplan et al., 1994, reported equal distribution among both sexes, and age distribution between 7-8 years.

The overanxious disorder among prepubertal children has been estimated by Anderson et al., 1987, and found it to be ranging from 2.9 to 4.1 percent, in the same previous study conducted in Newzealand, he also reported that most anxiety disorders had an over-representation of females, except for overanxious disorder which showed male predominance 1.7:1 this prevalence figure was exaggerated by Kleinknecht, 1991, who reported a prevalence ratio

2-9% of overanxious disorder in preadolescent children also McGee et al., 1990, in another study in Newzealand among 15 years old children, showed that the overanxious disorder was the most common anxiety disorder with a prevalence rate 5.9%. Kashani and Ovrashel, 1990, of university of Missouri examined a randomly selected group of 210 children aged 8-17 years and administered to them Anxiety-Disorders Interview, they found that 21% of their sample had one or more anxiety disorder. Of those with an anxiety disorder 36% had more than one diagnosis, with the most frequent diagnosis being separation anxiety and overanxious disorder .

Bishry et al., 1990, studied the emotional and behavioral disorders in Egyptian urban primary school children, the prevalence rate was 4.6%, and the overanxious disorder was the only prevailing frank anxiety disorder in the study sample (3.9%).

COMORBIDITY

Clinical studies have reported high rates of comorbidity in children with anxiety disorders. Two types of comorbidity are reported, each with its diagnostic implications; the co-occurrence of multiple anxiety disorders and the co-occurrence of anxiety disorders with other conditions.

A. Comorbidity Among Anxiety Disorders

Clinical studies have reported high comorbidity across anxiety disorders (50% or more; Last et al., 1987, 1992) . The DSM-III-R overanxious disorder seems to be the one most

frequently associated with multiple anxiety diagnoses. Epidemiological studies, however, are unbiased by clinical factors and are important informative sources of comorbidity . An important study conducted in United States by Benjamin and co-workers, 1990, examined 1-year prevalence of anxiety disorders in community cases between 7 and 11 years of age, found that 50% of those with overanxious disorder also had separation anxiety disorder; of those with a separation anxiety disorder, 27% had an overanxious disorder and 33% had simple phobias . From the epidemiological evidence multiple anxiety disorders appear frequent, and comorbidity rates appear to exceed chance expectations .

B. Comorbidity Of Anxiety Disorders With Other Disorders

Clinical, epidemiological and family studies have generated informative data. Several clinical studies of children with anxiety disorders have noted a frequent co-occurrence of major depressive disorder (from 30-80%; Last et al., 1987.,1992). The observation that when anxiety and depression co-occur, onset of the anxiety syndrome typically precedes that of the affective disorder (Klein, 1990). Although clinical reports are inconsistent with regard to comorbidity to other disorders, such as conduct disorder or attention deficit disorder; clinical studies of children identified because of ADDH have noted a high prevalence of anxiety disorders . (Klein, 1994).

ASSESSMENT OF ANXIETY DISORDERS

Despite the presence of multiple anxiety disorders, anxiety is a unitary emotion with similar psychological mechanisms underlying normal and pathological states, in all anxiety disorders anxiety varies in severity but not in its fundamental nature. Assessment of anxiety is a complex problem an anxiety follows as identifiable evolution that parallels other aspects of growth (Klein, 1994). Rutter, 1986, viewed developmental patterns as critical to the definition of psychopathology in children. On the other hand, current reports of comorbidity among the anxiety disorders also support the notion of the complexity of children's fears and anxieties (Last et al., 1987) .

Anxiety is expressed through three modalities: behaviour, subjective experience and physiological response.

Direct observation of anxious behaviour can be made in a laboratory when the controlling stimulus is available for presentation, but this procedure has faded due to ethical consideration (Bandura et al., 1967); instead, behaviour can be evaluated in the field by direct observers e.g. parents or participants for day time activities and bed time behaviour, and teacher for observation of behaviour pattern in response to different scholastic tasks e.g. examination, peer relationship, and speaking in front of the class , those observers , whether parents , teachers or participants , require training to ensure collection of good data.

The current methodology for the assessment of childhood anxiety disorders includes rating scales and direct interviews.

I Rating anxiety scales.

These scales are all designed to quantify level, or type of anxiety , they are either self rating anxiety scales , or parent and teacher-rated anxiety scales.

(a) Self-rating anxiety scales:

These are paper and pencil measures derived from adult scales , designed to obtain self-perception of anxiety in children.

Children manifest anxiety scale [a modified version of the manifest anxiety scale , Castaneda et al., 1956] it can be applied to 6-19 years old , self administered , or can be read by the examiner , it has the unique feature of providing a lie scale.

Spielberger and Colleagues, 1970, devised a scale for adults derived from a two-part model of anxiety , one tapping stable consistent tendencies (traits) , and the other reflecting situational temporary reactions (states): [the state - trait anxiety inventory : Spielberger et al, 1970] . A child version was adapted subsequently, the State-Trait Anxiety Inventory for Children [STAIC] this is used along with parent version . yet there is a question as to the instruments ability to accurately measure "state" Anxiety in children.

The Wolpe-Lang Fear Survey (Wolpe and Lang , 1964) was modified for use in children and became the Fear Survey Schedule for children (Scherer and Nakamura , 1968), revised to be applied

to children below age 9 (FSSC-R) (Ollendick, 1983) . FSSC-R had no significant differences across diagnostic subgroups , however it does discriminate separation anxiety from overanxious disorder and school phobia , using a total intense fear score.

Another scale designed to assess anxiety related to negative social evaluation in adults , modified for use in children [Social Anxiety Scale for Children ; La Greca et al, 1988] which is a semistructured 10-item self report measure , it pin points two factors of social anxiety , Fear of Negative Evaluation (FNE) and Social Avoidance and Distress (SAD). The short term reliability (1-2 weeks) of these scales found to be satisfactory (Ollendick , 1983 , La Greca et al , 1988) . However evidence for the diagnostic validity of self-rating scales is limited and not encouraging , although higher scale ratings have been obtained in children with anxiety disorders compared to normal subjects (Ollendick 1983), this finding has not been consistent .

Although some claim that self rating can distinguish the affects of anxiety and depression in children; reviews of the adult literature document the poor discriminative ability of such scales .(Dobson and Cheung , 1990).

(b) Parent and teacher - rated anxiety scales

Anxiety factor scores are included in several parent scales such as Louisville Behaviour Chick List , which was elaborated into Louisville Fear Survey (Miller et al, 1972) ; the Personality Inventory for Children (PIC : Lachar , 1982) ; and the Child

Behavior Chick List | CBCL , Achenbach and Edelbrock , 1979] . The most widely used parent scale is the CBCL , although it has two limitations : the first it has no anxiety factor at all ages , the second is that the content of the anxiety factor varies between boys and girls ; these discrepancies in the CBCL suggest that item content may fail to capture relevant aspects of children's anxious symptomatology (Klein , 1994).

-Personality assessment is not a generally recommended method (Gittleman , 1988) , due to length , necessary reading skills and breadth of information covered. However the PIC has been found to distinguish between anxious and depressed cases.

Obviously : parents are poor , invalid informants for assessing children's anxiety (Gittleman , 1988) . The picture seems even worse with regard to teacher scales . Although the test-retest reliability of the anxiety scores of the teacher CBCL appear to be satisfactory (Achenbach and Edelbrock , 1979) , teachers ability to identify anxious children is questionable.

II Clinical Interviews

The inclusion of diagnostic criteria DSM-111 (American Psychiatric Association , 1980), gave impetus to the development of clinical interviews designed to elicit diagnostic information (Klein , 1994) . Now it is considered the most widely used method for obtaining information. Clinical interviews include history taking , mental status examination, and direct behavioral observation .

The clinical interviews are helpful in providing systematic , comprehensive coverage of symptomatic status and , as such may be a resource to clinicians. (Klein , 1994) .

Structured and semistructured interviews have gained popularity , and several of these interview schedules are in general use .

Omnibus interviews that include DSM-III-R childhood anxiety disorders are Schedule for the Affective Disorders and Schizophrenia for School-Age Children (kiddie-SAD or K-SADS ; Chambers et al , 1985) .

This semistructured interview presents multiple items with some space for further clarification of symptoms ; It is applicable for children between ages 6-17 years . It comes into 2 forms , one for the use for the parents about the child , and the other to be used with the child directly.

The diagnostic interviews for children and Adolescents (DICA , Reich et al , 1992) . The Diagnostic Interview Schedule for Children (DISC ; Costello et al , 1985) . Both are structured interviews which assess symptoms of a multitude of diagnoses keyed to the revised third edition of DSM (DSM-111-R).

The Child Assessment Schedule (CAS ; Hodges , 1989) and the Interview Schedule for Children [ISC; Kovacs , 1985].

The coverage of adult anxiety disorders is partial in these omnibus interviews. This omission is important since the onset of

adult anxiety disorders is frequently in childhood (Christie et al , 1988) , therefore , the results obtained reflect only a partial picture of anxiety disorder in youth.

The World Health Organization , 1992 , introduced another structured Clinical interview based on ICD-10 diagnostic criteria , the Schedules for Clinical Assessment in Neuropsychaitry (SCAN).

Interviews specific to anxiety disorders are another type of interviews:

The Anxiety Disorders Interview Schedule for Children (ADIS ; Silverman, 1991) provides inquiry for all anxiety disorders. It is still in the investigative stage . This semistructured interview has 2 versions ADIS-C-Child version and ADIS-P parent version , it is symptom oriented , Independent of informant , the ADIS-C and ADIS -P are reported to discriminate between simple phobias , over anxious disorders and school phobias , Two other interviews are undergoing testing. The first is a new version of the DISC for use in epidemiological studies (NIMH, 1991) includes detail inquiry about all anxiety disorders. The Child and Adolescent Psychiatric assessment [CAPA ; A. Angold , A. Cox , M. Prendergast , M. Rutter and E. Sinonoff, unpublished observations] designed for clinicians , elicits symptoms of all anxiety disorders over a 3 month period.

PHOBIC DISORDERS IN CHILDHOOD

Definitions

The term "phobia", is derived from the Greek word "phobos" meaning fear or panic (Knoff, 1979). A phobia is an irrationale fear resulting in a conscious avoidance of the feared object, activity or situation either the presence or the anticipation of the phobic entity elicits severe distress in the affected person who recognizes that the reaction is excessive, this phobic reaction results in a disruption of the persons ability to function in life (Kaplan et al, 1994). Marks, 1969, defined phobic states as emotional disorders in which there is abnormally intense dread of certain objects or specific situations that normally do not have that effect.

However the term fear is usually described as normal human experience and response to real or imagined situation (king et al, 1988). For children, **fear is an integral part of their normal development,** fear therefore often involve normal reactions to those stimuli that are considered by the child as either directly threatening or associated with threatening stimuli (Morris and Kratochwill, 1988). Phobia sometimes termed "clinical fear", however, distinction between fear and phobia on the basis of intensity or magnitude of the individuals reaction is sometimes questioned; King, et al., 1988, differentiated between both phobia and fear on the basis of the diruption of the individual or the family life style the reaction may cause.

Phobia and Anxiety

Childhood phobias must also be distinguished from more diffuse anxiety states, anxiety states are not limited, as phobias typically are to particular situations (Dupont, 1983).

Dupont, 1983, stated that childhood phobias are not well correlated with general mental health, worry or even anxiety, he postulated that there is a high correlation between childhood phobias and specific maternal phobias.

Classification

Phobia is classified under the heading of neurotic stress-related and somatoform disorders in the ICD-10 classification, furthermore, ICD-10 includes phobic disorders of childhood.
However, in the DSM-IV phobia is included under anxiety disorders. The Fourth Edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) lists 3 types of phobia; namely: agoraphobia, specific phobia and social phobia; which is more or less similar to ICD-10 subdivisions; the divisions in DSM-IV match the nomenclature in the ICD-10.

Specific phobia

Specific phobia is the most common type of phobia encountered. It was previously named simple phobia in DSM-III-R.; this name was changed into specific phobia to match ICD-10 nomenclature, and to avoid restricting the scope of diagnosis, since

panic attacks are common in patients with specific phobia, the name "simple phobia" incorrectly implies that panic attacks are not allowed by diagnostic criteria(Kaplan et al., 1994). Preliminary data indicate that the natural environmental type of phobia is the most common in children under 10 years with peak age of onset in the range of 5-9 years (Kaplan, et al., 1994).

DSM-IV
Diagnostic criteria for specific phobia

A. marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g. flying, heights, animals, receiving an injection, seeing blood).

B. Exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed panic attack .

Note: In children, the anxiety may be expressed by crying, tantrums, freezing, or clinging.

C. The person recognizes that the fear is excessive or unreasonable, Note: in children, this feature maybe absent .

D. The phobic situation(s) is avoided, or else endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared situation(s) interferes significantly with the person's normal routine, occupational (or academic) functioning, or social activities or relationships with others, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The anxiety, panic attacks, or phobic avoidance associated with specific object or situation are not better accounted for by another mental disorder such as obsessive-compulsive disorder (e.g. fear of dirt in someone with an obsession about contamination, post traumatic stress (e.g. avoidance of stimuli associated with a severe stressor), separation anxiety disorder (e.g. avoidance of school), social phobia (e.g. avoidance of social situations because of fear of embarrassment), panic disorder with agoraphobia or agoraphobia without a history of panic disorder.

Specify Type

- Animal Type
- Natural environment type (e.g. Heights, storms and water).
- Blood, injection, injury type .

- Situational type (e.g., planes, elevators, enclosed spaces).

-Other type (e.g., phobic avoidance of situations that may lead to choking, vomiting or contracting an illness in children, avoidance of loud sounds or costumed characters).
(American Psychiatric Association, 1994).

Social Phobia

ICD-10 includes social phobia that is equivalent to dysfunction DSM-III-R avoidant disorder; however in the DSM-IV this disorder is combined with adult diagnosis of social phobia (Klein, 1994). It involves persistent withdrawal from contact with strangers to the extent that it impairs social functioning and peers relationship (Kleinknecht ,1991).

Although this fear is considered normal during the first year of life having an average onset of about 8 months of age, a diagnosis of social phobia is only considered after the intense fear of strangers has persisted well past the normal developmental phase, roughly upto 2 and half years of age (Francis et al, 1992). However these children report comfort and satisfying involvement with significant others, such children often present as embarrassed and socially phobic.

DSM-IV
Diagnostic Criteria For Social Phobia

A. marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others, the

individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating embarrassing.
Note: in children , there must be evidence of capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.

B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed panic attack Note: in children, the anxiety may be expressed by crying, tantrums, freezing ,or shrinking from social situation , with unfamiliar people .

C. The person recognizes that the fear is excessive or unreasonable.
Note: in children, this feature maybe absent.

D. The feared social or performance situations are avoided, or else endured with intense anxiety or distress .

E. the avoidance, anxious anticipation, or distress in the feared social, performance situation(s) interferes significantly with the person's normal routine, occupation (academic) functioning, or social activities or relationships with others, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The fear or avoidance is not due to the direct physiological effects of a substance or a general medical condition, and is not better accounted for by another mental disorder .

H. If a general medical condition or other mental disorder is present , the fear in criterion A is unrelated to it, specify if:

Generalized : If the fears include most social situations (also consider the additional diagnosis of avoidant personality disorder)
(American Psychiatric Association, 1994).

Epidemiology Of Phobia

Phobia among children have been studied by numerous researchers for many decades, Body et al., 1990, reported that prevalence of phobia is 6.2% in community sample. However phobia are relatively uncommon in child psychiatric practices as it is seen in less than 5% of all patients (Dupont, 1983).

Specific phobias is more common than social phobia prevalence of social phobia was reported to range from o.9 to 2.2 percent. (Myers et al, 1984), while specific phobias was recorded to be 7.7 per cent (Agars et al. 1969), they also reported that fears of heights and darkness made, 2% for each in their sample.

School phobia, however is reported to be 1-2 per cent of children (Dalton, 1996).

In epidemiological studies females are affected more than males, but in clinical samples the reverse is often true. The reason of those varying observation is still unknown. (Kaplan et al., 1994).

Comorbidity

Many studies have reported comorbidity of phobia with other conditions; as the distress associated with phobias, especially when they are not recognized or acknowledged as mental disorders , can lead to further psychiatric complications, including other anxiety disorders, major depressive disorder ,and substance related disorders (Kaplan et al, 1994).

Anderson et al., 1987, reported that social phobia is present in 25 percent of patients with a primary diagnosis of panic disorder; similarly in their study 17 percent of patients of social phobia also met DSM-III-R criteria of panic disorders, and 59 percent of patients with generalized anxiety disorder met criteria for social phobia.

In specific phobia, comorbidity of panic attacks are common (Kaplan et al, 1994), moreover many children with separation anxiety have dark fear (Klein, 1994). Some investigators may interpret this fear as feature consistent with separation, others may view a fear of dark as an additional simple phobia (Klein, 1994).

Separation anxiety also, clearly plays a leading role in phobic disorder development as Kaplan et al, 1994, reported that the most

common anxiety disorder associated with separation anxiety disorder is by far specific phobia.

School phobia reported to show comorbidity with anxiety disorders, obsessive compulsive disorder and psychosomatic symptoms by Bernstein and Garfinkel, 1989; they also reported that 70% of school phobic children suffer from depression, and 60% with anxiety disorder especially separation anxiety. Okasha et al, 1988, reported that phobia, anxiety and depression often relate, as preexisting phobia almost invariably gets worse during depressive episodes .Some depressive episodes are accompanied by temporary anxiety, and a depressive mood often accompanies some phobias especially agoraphobia.

MATERIALS AND METHODS

MATERIALS AND METHODS

This study included 60 patients with varying degrees of acquired hearing loss, of duration more than one year.

The patients were chosen from the Otorhinolaryngology Clinic of Ain Shams University Hospital.

The patients were in late childhood, age ranging from 7-11 years with a mean of 8.8 ± 1.39

37 were males and 23 were females.

Most of them were school children of poor-medium socioeconomic class of non-specified family construction.

The type of acquired hearing loss in these children was:-

Conductive hearing loss	:	42	patients
Sensorineural hearing loss	:	5	patients
Mixed hearing loss	:	13	patients

The cause of hearing loss in these children was :-

Chronic suppurative otitis media (CSOM)	:	30	patients
Chronic secretory otitis media	:	25	patients
Post-meningitic	:	3	patients
Post-measles	:	1	patients
Viral labyrinthitis	:	1	patients

Control Group Character

30 apparently normal children of nearly the same age 7-11 years (mean 8.9 ± 1.56) and sex distribution (18 males and 12 females).

They were relatives of patients visiting the otorhino-laryngologic clinic, of nearly the same social level and family construction .

Procedures

Full general and otorhinolaryngologic examination were done for all the children of both groups (hearing impaired children and control group) to exclude any other associated general medical or otorhinolaryngologic disease .

Full audiologic evaluation was done for all the children of both groups; including :

* Puretone audiometry
* Speech audiometry
* Tympanometry
* Evoked response audiometry (in certain cases).

According to the audiologic results, the children with hearing loss were divided into three groups :-

I : Mild hearing loss (less than 30 dB) : 24 cases

II : Moderate hearing loss (from 30-60 dB) : 29 cases

III: Severe hearing loss (from 60-90 dB) : 7 cases

The duration of hearing loss was more than one year in all 60 children, and ranging from 1-5 years .

Full psychiatric evaluation was done for all children of both groups to detect anxiety, phobia and depression using semistructured psychiatric interview for each child with the help of his or her parents, this psychiatric interview is the one applied Ain Shams Psychiatric department.

The psychiatric diagnosis is done according to DSM-IV (1994).

The specific psychological tests used in Ain Shams Psychiatric Center were also applied to all of these children of both groups namely:

1. Children's Anxiety Scale
2. Children's Phobia Scale
3. Children's Depression Inventory

Tools Applied

I Children's Anxiety Scale (CAS)

This is the Arabic version derived from Children's Manifest Anxiety Scale (CMAS) by Castaneda et al, 1956; It is designed by Abdel Hamid and El- Nial, 1991 .

The authors prepared the (CAS) to be applied on children at the primary and preparatory schools to obtain self-perception of anxiety; both reliability and validity of the scale were assessed the authors. This scale consists of 36 statements which measures all aspects of anxiety : Somatic features, physiological features, motor features, emotional features mental and social features. (Appendix).

II Children's Phobia Scale

This is a self report instrument designed by Altayeb, 1980, to assess presence of phobia in late childhood, this test consists of 20 statements, the questions are easy to read and understand, and the answers require yes or no, these statements include symptoms of common specific phobias and social phobia in children; Validity and reliability of this test were assessed by the author. (Appendix).

Children's Depression Inventory (CDI)

This Scale was designed by Ghareeb, 1988, It is an Arabic version derived from the Children's Depression Inventory (CDI) developed by kovacs M., 1981, which is a downward extension of the Beck Depression Inventory (Beck and Beamesderfer, 1974). The CDI is a self-report instrument and has been used in several epidemiological studies to evaluate the prevalence of depressive symptoms in children. (Appendix) .

STATISTICAL ANALYSIS

STATISTICAL ANALYSIS

The data collected was introduced to IBM computer. Statistical analysis of the whole work was done at the department of community medicine, Ain Shams University.

The following statistical Parameters have been used in this field research:

1. Prevalence Rate

Definition: - The prevalence of a disease in population is the proportion of that population having disorder at a given point in time.

$$\text{prevalence} = \frac{\text{Number of individuals with attribute or event.}}{\text{Total number of individuals in a group}}$$

* The numerator encompasses both new and on going cases of the disorder.

2. The mean = the arithmetic average

$$\text{The mean} \quad M = \frac{\Sigma X}{N}$$

Where Σ = the sum of the individual values.

X = individual values.

N = the number of cases.

3. Standard Deviation (SD)

It is the square root of the variance. It gives an astimate of the average deviation around the mean

$$S.D = \sqrt{\frac{\sum X^2 - \frac{(\sum X)^2}{n}}{n-1}}$$

Where ΣX^2 = the sum of squares of the individual values.

$(\Sigma X)^2$ = the square of the sum of the individual values.

4. T-Test:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{SD_1^2 \times n_1 + SD_2^2 \times n_2}{(n_1 + n_2) - 2}}}$$

for the value of t, consult tables at the degree of freedom $n_1 + n_2 - 2$.

5. Chi-Square: X^2

$$X^2 = \Sigma \frac{(O - E)^2}{E}$$

Where O = the observed value.

E = the expected value .

6. Correlation Matrix

Was exmined between the various parameters and statistical tests of significance.

7. Mc Nemar Test

Non parametric test of the differences between group measures. (Hill,1991)

RESULTS

RESULTS

This study was conducted on 60 children with varying degrees of haring loss acquired more than one year duration; besides 30 apparently normal control children of nearly the same age and sex distribution as shown in Table (I&II) and Fig. (I&II).

The patients were divided according to the degree of hearing loss into 3 groups: mild - moderate - severe.

Group I mild hearing loss (H.L.):	less than 30 d.B.
Group II moderate hearing loss (H.L.):	from 30 - 60 d.B.
Group III severe hearing loss (H.L.):	from 60 - 90 d.B.

The results of psychiatric and psychologic evaluation of all the hearing - impaired children and the control were analysed in the Public Health Department of Ain Shams University using IBM Computer.

Psychometry for children with severe hearing loss could not be completed because of inability of these severely disabled children to complete this self - assessment investigation.

Table I : Age Distribution.

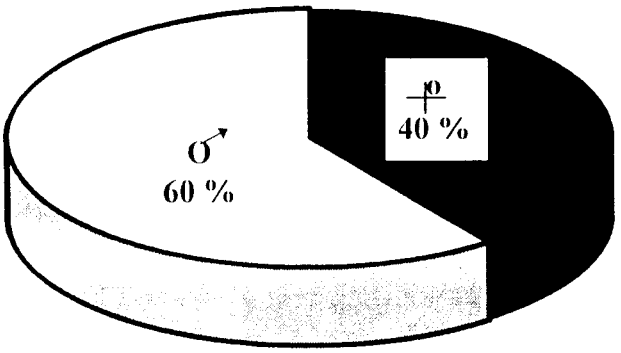
Cases	Mean	S.D. ±	Minimum	Maximum
Mild H.L.	8.75	1.45	7	11
Moderate H.L.	8.52	1.33	7	11
Severe H.L.	9.29	1.38	7	11
Total H.L.	8.85	1.39	7	11
Controls.	8.97	1.56	7	11

The age range in cases with hearing loss and the controls varies from 7 - 11 with a mean value of 8.85 ± 1.39 in diseased children and 8.97 ± 1.56 in the controls.

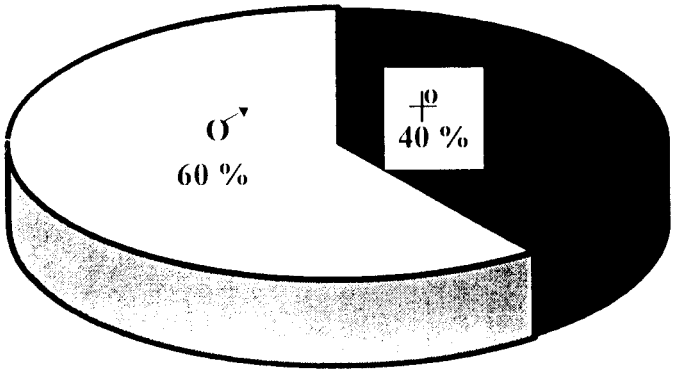
Table II Sex Distribution

Cases	Male	Female
Mild H.L.	15 62.5 %	9 37.5 %
Moderate H.L.	18 62.1 %	11 37.9 %
Severe H.L.	3 42.9 %	4 57.1 %
Total H.L.	36 60 %	24 40 %
Controls	18 60 %	12 40 %

Both the cases and controls have nearly the same sex distribution as seen in Table (II) and Figure (I).



Hearing Loss (H. L.)



Controls

Figure I : Sex Distribution.

Table III Clinically diagnosed anxiety

	-	+	t - test
Mild H.L.	20 83.3 %	4 16.7 %	$p > 0.05$ not significant
Moderate H.L.	23 79.3 %	6 20.7 %	$p < 0.05$ Significant
Severe H.L.	5 71.4 %	2 28.6 %	$p < 0.05$ Significant
Total H.L.	48 80 %	12 20 %	$p < 0.05$ Significant
Controls	28 93.3 %	2 6.7 %	

Clinically diagnosed anxiety is more significant among cases with hearing loss than the controls ; and shows gradual increase with severity of hearing loss. (see Table III and Figure II).

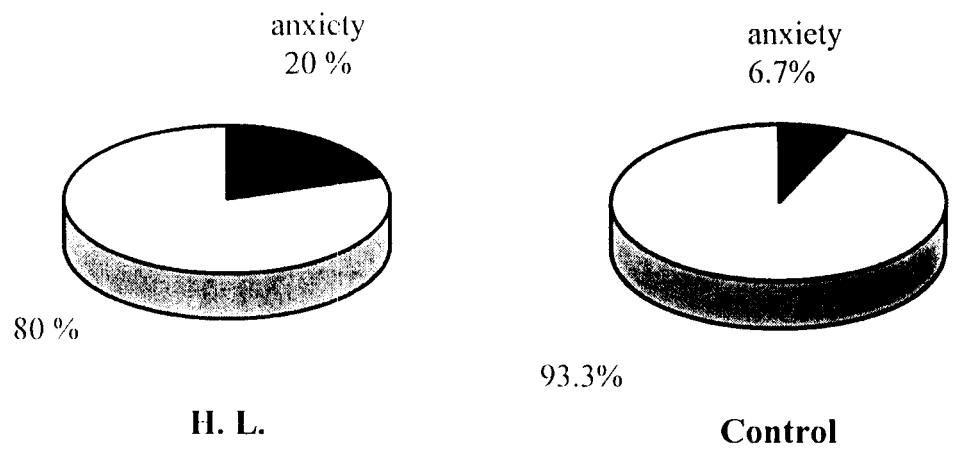


Figure II

Table IV Clinically diagnosed phobia.

	-	+	t - test
Mild H.L.	22 91.7 %	2 8.3 %	$p > 0.05$ Not Significant
Moderate H.L.	26 89.7 %	3 10.3 %	$p > 0.05$ Not Significant
Severe H.L.	4 57 %	3 42.6 %	$p < 0.01$ Highly Significant
Total H.L.	52 86.7 %	8 13.3 %	$p < 0.05$ Significant
Controls	28 93.3 %	2 6.7 %	

Clinically diagnosed phobias are more significant among cases with hearing loss than the controls ; and show gradual increase with the severity of hearing loss.

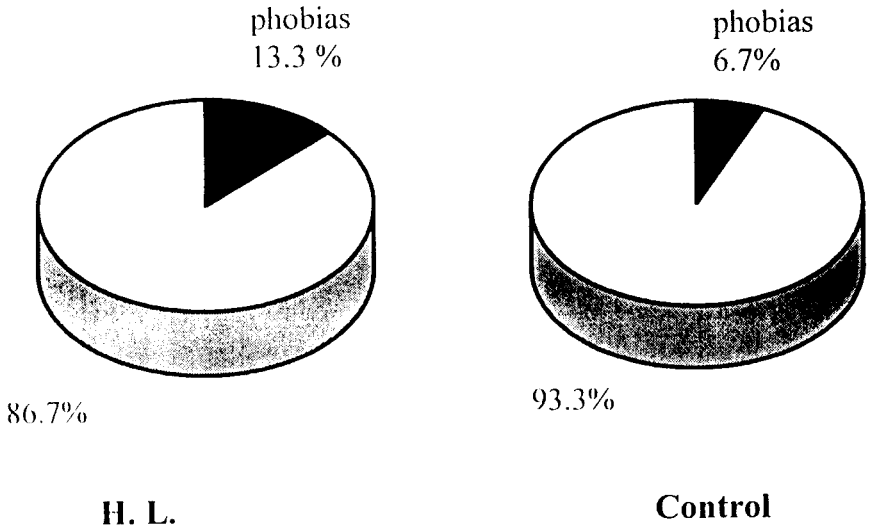


Figure III

Table V Clinically diagnosed depression.

	-	+	t - test
Mild H.L.	23 95.8 %	1 4.2 %	$p > 0.05$ Not Significant
Moderate H.L.	24 82.8 %	5 17.2 %	$p > 0.05$ Significant
Severe H.L.	4 57.1 %	3 42.9 %	$p < 0.01$ Highly Significant
Total H.L.	51 85 %	8 15 %	$p < 0.05$ Significant
Controls	29 96.7 %	1 3.3 %	

Clinically diagnosed depression is more significant among cases with hearing loss than the controls; and show gradual increase with the severity of hearing loss.

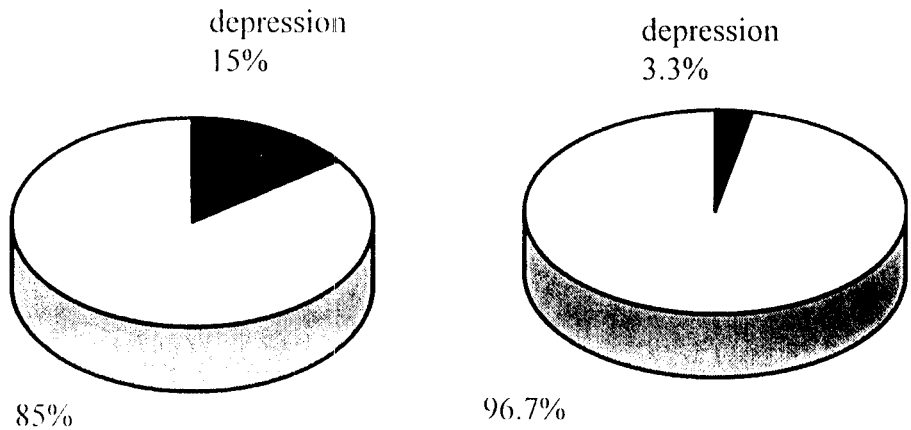


Figure IV

Table VI Psychometric scores in anxiety.

	Number of Cases	Mean	S. D.	t - test
Mild H.L.	24	11.10	5.4	p< 0.001 Highly Significant
Moderate H.L.	29	12.10	6.23	p < 0.001 Highly Significant
Controls	30	6.63	3.2	

Psychometric scores for anxiety were highly significant in mild and moderate hearing loss than the controls.

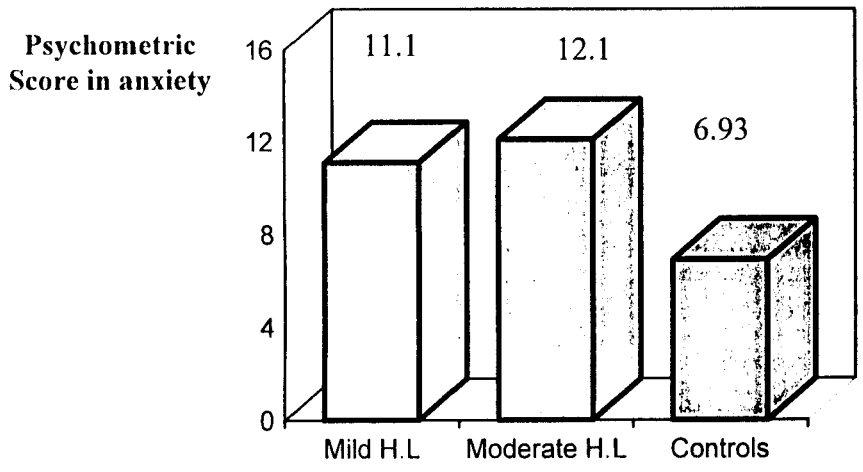


Figure V

Table VII Psychometric scores in phobia.

	Number of Cases	Mean	S. D.	t - test
Mild H.L.	24	5.79	3.24	$p > 0.05$ Not Significant
Moderate H.L.	29	8.61	3.46	$p < 0.001$ Highly Significant
Controls	30	4.97	2.3	

Psychometric scores for phobia were highly significant in moderate hearing loss than the controls.

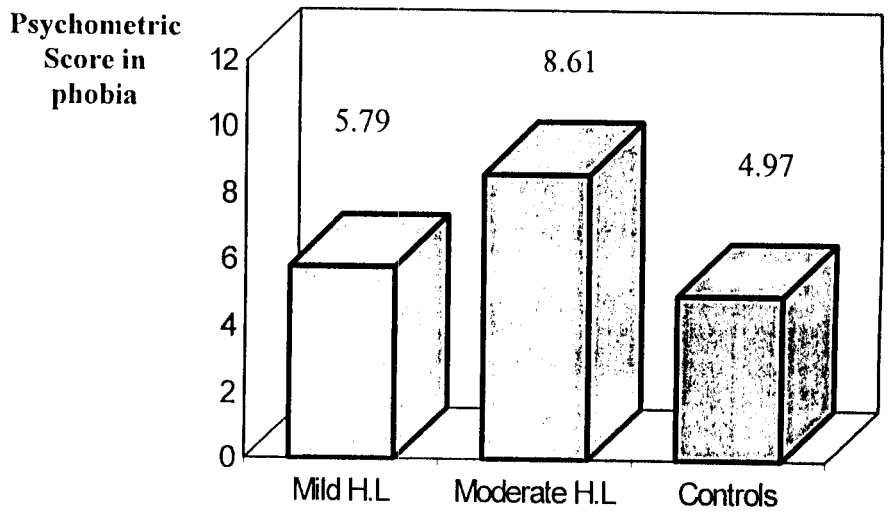


Figure VI

Table VIII Psychometric scores in Depression.

	Number of Cases	Mean	S. D.	t - test
Mild H.L.	24	7.83	5.16	$p < 0.01$ Significant
Moderate H.L.	29	10.72	6.97	$p < 0.001$ Highly Significant
Controls	30	4.24	3.36	

Psychometric scores for depression were highly significant in mild and moderate hearing loss than the controls.

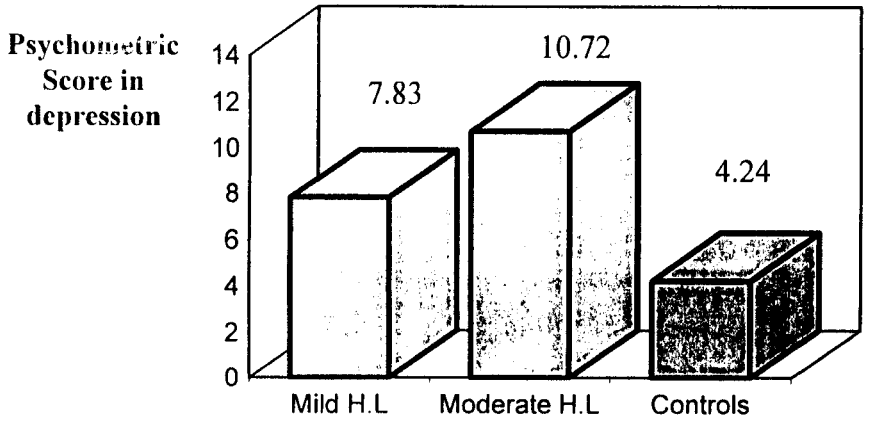


Figure VII

The relationship between the duration of hearing loss and the prevalence of psychiatric disorders is demonstrated in the following table (IX) and figures (VIII, IX, X, XI).

Table IX Duration of hearing loss.

Cases	Mean	S. D. ±	Minimum	Maximum
Mild H.L.	2.17	0.80	1.00	3.50
Moderate H.L.	2.55	1.21	1.00	4.50
Severe H.L.	3.64	0.90	2.50	5.00
Total H.L.	2.79	0.97	1.00	5.00

Duration of hearing loss varies from 1 - 5 years.

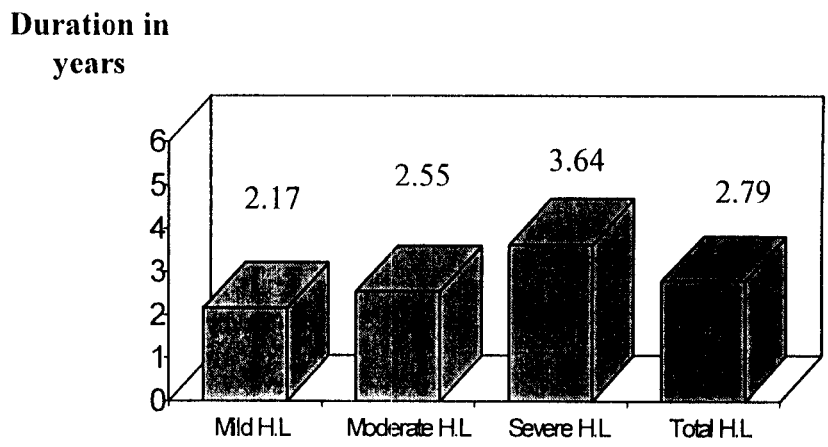


Figure VIII

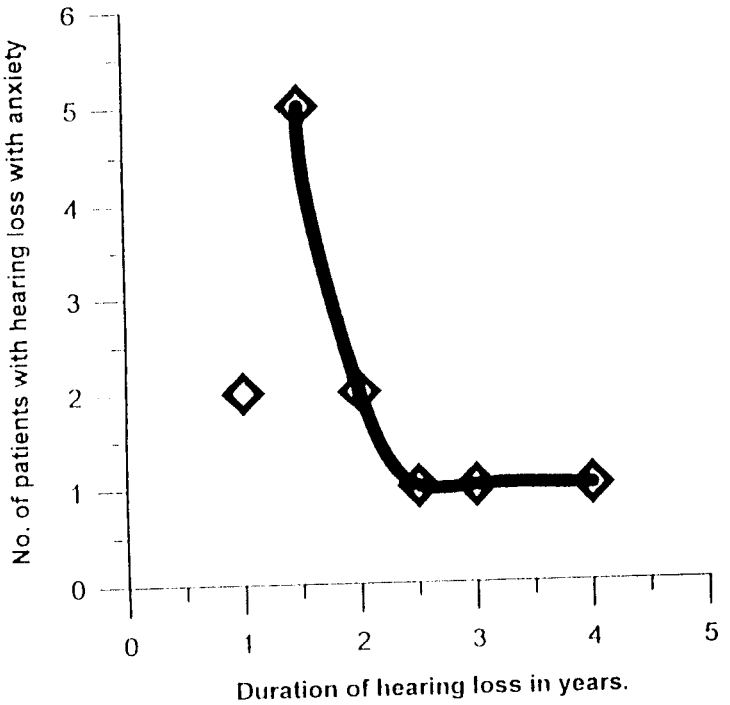


Figure IX

Relationship between the prevalence of anxiety and the duration of hearing loss

As the duration of hearing loss increases, the prevalence of anxiety decreases.

The solid curve in figure (IX) represents the best fit of data obtained using the following equation;

$$\mathbf{Log(y) = B \bullet Log(x) + A}$$

Where, A = 1.0, B = 1.7,
x is duration of hearing loss in years.
y is number of patients with hearing loss with anxiety.

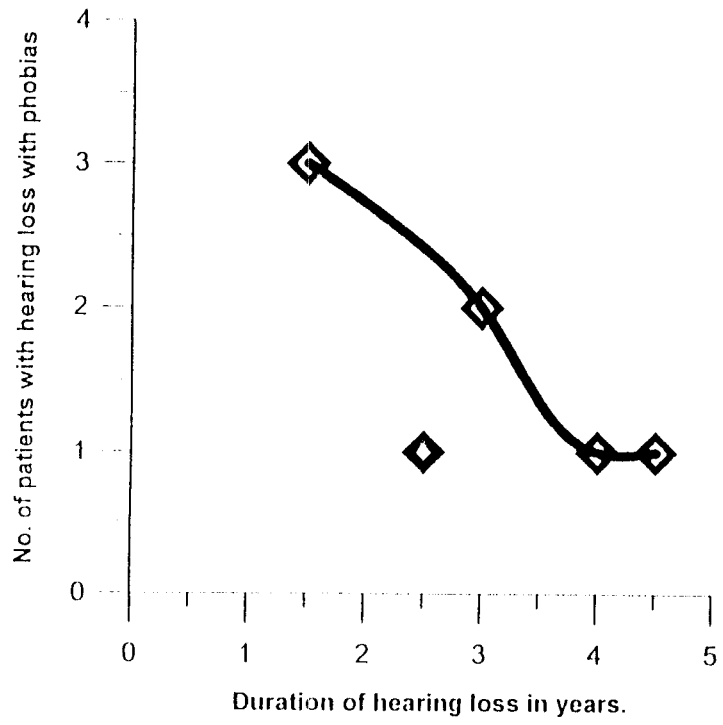


Figure X

Relationship between the prevalence of phobias and the duration of hearing loss.

As the duration of hearing loss increases, the prevalence of phobias decreases.

$$\mathbf{Log(y) = B \bullet Log(x) + A}$$

Where; A = 1.6, B = -10,
x is duration of hearing loss in years.
y is number of patients with hearing loss with anxiety.

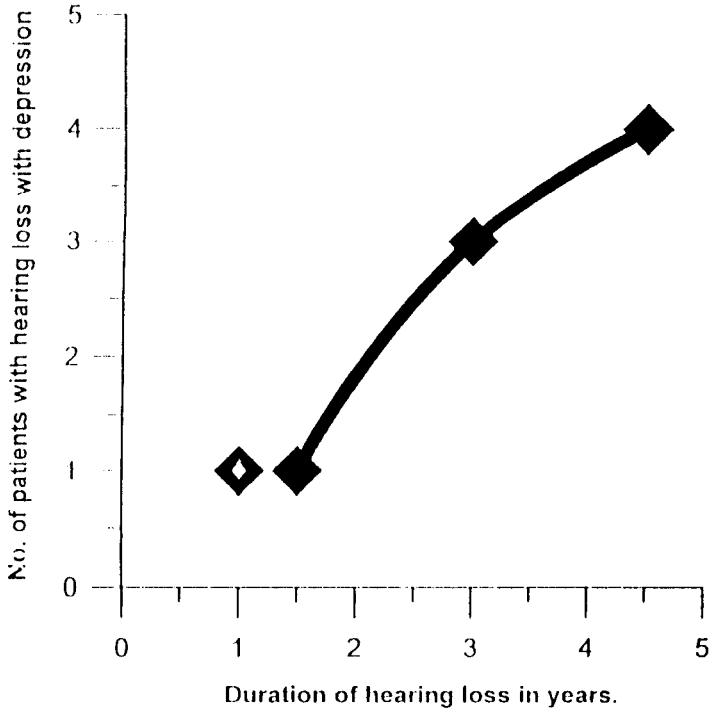


Figure XI

Relationship between the prevalence of depression and the duration of hearing loss.

As the duration of hearing loss increases , the prevalence of depression increases.

$$\mathbf{Log(y) = B \bullet Log(x) + A}$$

Where; A = -0.5, B = 1.3,
x is duration of hearing loss in years.
y is number of patients with hearing loss with anxiety.

DISCUSSION

DISCUSSION

In the early 1950s , the conjunction of developments in political, social and scientific spheres created the necessary condition to attract widespread attention to sensory deprivation research (Okasha, 1987) . Sensory impairments can have profound effects on children's development. The more profound the impairment and the earlier onset the greater the effect. (Hindley and Brown, 1994).

Hearing disabilities , due to their interactive nature strongly affect intimate relationships that leads to social isolation and emotional impact (Hetu , 1993) .

Hebb and his coworkers, 1966 , showed in their experimental studies that sensory deprived subjects reacted with increased suggestibility mainly, however some subjects showed anxiety , tension , inability to concentrate disorganized thoughts , body illusions , somatic complaints and emotional distress ; several theories have been postulated:
Psychological theories showed that under conditions of sensory deprivation the abrogation of such ego function as perceptual contact with reality and logical thinking brings about confusion , irrationality , fantasy formation , hallucinatory activity and wish dominated mental reactions.

Physiological theories revealed that the maintenance of optimal conscious awareness and accurate reality testing depends on a necessary state of alertness . That alert state , in turn , depends on a constant stream of changing stimuli from the external world ,

mediated through the ascending reticular activating system in the brain stem.

In the absence or impairment of such a stream as occurs in sensory deprivation , alertness falls away , direct contact with the outside world diminishes , and impulses from the inner body and central nervous system may gain prominence .

Personality theories, however ,attempt to explain rather the variation of phenomena of sensory deprivation from subject to subject. Various approaches are offered by various investigators : introversion - extroversion , body field orientation and optimal stimulation level.

Cognitive theories stress the fact that the organism is an information - processing machine , the purpose of which is optimal adaptation to perceived environment . Lacking sufficient information, the machine is unable to form a cognitive map, against which current experience is matched . Disorganization and maladaptation are the result . (Kaplan at el , 1994)

The child's developing theory of mind as an interconnected network of beliefs , desires and feelings that govern behavior provides a cornerstone for social and intellectual life. Peterson and Siegal , 1995 , explored the development of a theory of mind in a group of signing deaf children of normal intelligence aged from 8-13 years , their results revealed that 65% failed a simple test of false belief which normal preschoolers , mentally retarded and other handicapped groups routinely pass ; conversational account of the development of theory of mind has been hypothesized.

Social and personality development depends heavily on communication . Ramsdell , 1970 , hypothesized that hearing serves three functions, symbolic : communication via speech ; warning :

signals of impending danger , threatening cry of animal , motor horns and as a background noises associated with various activities going on around us which have no particular informational content. The most obvious handicap which the hearing impaired suffers is in communication , but Ramsdell argued that the deprivation of background noises was most intimately related to the feeling of depression to which the hearing impaired were prone.
This was produced by the feeling of detachment , unreality and isolation that deprivation produced .

Hearing loss is considred one of the most common and important forms of sensory deprivation. At least one of every 16 Americans has some degree of hearing loss and may use a variety of communication modes (McEntee , 1995). Estimates of the number of children with hearing impairment vary considerably such things as differences in definition , population studies and accuracy of testing contribute to the varying figures. Bamford and Saunders , 1991, reported that approximately 1 in 1000 children will have moderate to profound congenital and early onset hearing impairment , rising to 4 in 1000 if acquired losses are included , yet other authorities have concluded that approximately 5% of all school children have hearing impairments (Bensberg and Sigelman , 1976) many of these impairments, however, are not considered severe enough to require special educational services .

Males , black students and children aged 6-11 years were found to be somewhat over represented in hearing impairment group in comparison to their proportions in general population , this corresponds to the age group included in the present study.

The most common cause of acquired hearing loss in children is C.S.O.M. (Kenna et al. , 1986) , this goes with our study in which C.S.O.M. was the most frequent cause of hearing loss ; C.S.O.M. is more common and aggressive in children probably due to lesser immunity and greater incidence of exposure to upper respiratory infection than adults (Ruper and Raman , 1991) .
Prevalence of C.S.O.M. among Egyptian primary school children is 1.48% , in which bilateral ear disease was accounted for 21.8% of these cases , all of them had various degrees of hearing loss (Wassila and Mahasen , 1994).
Otitis media with effusion is now thought to have a significant but not a major effect on language development. (Haggard and Hughes , 1991) also it adversely affect the social and emotional development (Eimas and Karunagh, 1986). Otitis media with effusion was the second frequent cause of hearing loss in our study group.

Meningitis is still one of the serious infectious diseases in clinical practice. In a high percentage of cases with this disease process , the auditory and vestibular parts of the inner ear are damaged . 76.4% of children who had previous history of meningitis showed sensorineural hearing losses which varied from mild hearing loss to total deafness (Aust , 1994) .
Brobby , 1988 , reported that meningitis was 8.5% in a study on 105 cases of congenital and acquired total sensorineural hearing loss ; three cases (5%) with history of meningitis followed by severe hearing loss were recorded in the current work.

Several authors have studied psychiatric morbidity in relation to hearing impairment among children and adolescents.

Rutter et al, 1970 , showed a 15.4% prevalence of psychiatric morbidity in his series of moderate to profound hearing loss. Fundulis et al , 1979 , reported a 54% prevalence of total psychiatric morbidity in cases with profound hearing loss , and a 28% prevalence in cases of hard of hearing among a series of school population. However , Aplin , 1987 , have shown a 16.6% psychiatric morbidity in a sample with wide age range of children and adolescents with wide range of hearing loss mild to profound . Hindley et al , 1994 , have reported a 50.3% prevalence of psychiatric morbidity in large series of hearing impaired children ranging from moderate to profound using a highly structured diagnostic interview , they used also parent's chick list (PCL) and teachers chick list (TCL).

Two other studies conducted among deaf children **with psychiatric morbidity** done by Schlesinger and Meadow , 1972, and Aplin , 1985 ,results of both studies were 31.2% and 36.1% respectively.

In the current study on children with mild to severe hearing loss the prevalence of anxiety , phobia and depression was 35% which goes with the previous results .

Some of the previous mentioned studies included control groups , and reported that the prevalence of psychiatric disorders in the hearing impaired group was 2.5 - 3 times that of the control , which goes with the present study being 2.6 times prevalence of psychiatric morbidity in hearing impaired than that of the control was recorded.

Several studies have provided important insights into the etiology of psychiatric disorders in deaf children . General factors

such as brain abnormalities (Freeman et al . , 1975) , disordered family life (Goldberg et al , 1975) and low I.Q. (Schlesinger and Meadow , 1972) have been found to correlate with behavioral and psychiatric problems.

Three major factors have been identified which are more specific to deafness : severity of hearing loss ; communication ; and type of schooling . In the present study severity of hearing loss was correlated to psychiatric morbidity , especially to phobia and depression.

This goes with the results of Jones et al , 1984 , which revealed that probability of emotional disturbances did increase with increasing severity of hearing difficulties . Anyway in Schlesinger and Meadow , and Freeman et al studies, the severity did not seem to correlate with psychiatric disorders.

Vernon , 1967 , stated that the hard of hearing seems to reflect more psychological disturbances than the deaf as they frequently share the problem of marginal people in any group , that of identification . Al Gendi , 1993, showed in her study that behavior disorders were commonest in the hard of hearing group 40% than deaf children 28% in the same deaf school.

This might be true in prelingualy deaf ; but highly unlikely in patients with acquired hearing loss.

Stockoe and Battison , 1975 ; and Meadow 1980 , hypothesized difficulties in communication in deaf children to be more correlated to psychiatric disorders . Finally school setting and type of schooling have emerged as important variables whose effect

is still unclear . Studies that have compared deaf children attending schools for deaf against hearing impaired children in integrated units , have suggested that there are higher rates of disorders in children at deaf schools (Fundulis et al , 1979 and Aplin , 1985 and 1987) . These findings run counter to the accounts of deaf adults who regard schools for deaf children as one of the central experiences of becoming deaf and the views of hearing impaired children in integrated settings who often describe stressful experiences (NDCS , 1990) ; this goes with results of Hindley et al , 1994, that showed prevalence rate of psychiatric morbidity in the hearing impaired unit population one and half times that of the deaf school group.

Dumoulin and Bonard , 1987 , noted that whatever the origin of deafness it surely leads to grave cut from the environment and a very big isolation from the society , this is in turn leads to psychic inevitable complications.

The nature and complexity of the problem that the patient will confront differ radically according to the age onset of deafness , the organic lesion found in him , the age of discovery of deafness , the onset of intervention with use of hearing aid or rehabilitation especially auditory training , the expectation of the family and teachers as well as those of the hearing impaired child , academic , perceptual and cognitive potential and opportunity for learning , yet there is very little idea about what is likely to predispose a person to develop an adverse emotional reactions to hearing loss (Jakes , 1987) . In the current study , there was a positive correlation between the severity of hearing loss and the psychiatric morbidity .

Gordon et al ., 1994 , showed an interaction between age and hearing loss, in which younger subjects with hearing loss reported more handicapping effects of sensitivity loss than the older subjects with hearing loss . This age effect was not attributed to differences in hearing sensitivity between the young and older subjects with hearing impairment. Yet in the current study age was not correlated with psychiatric morbidity indicating different ages of onset of hearing impairment present different tasks for children.

The constant insecurity in which the child lives in from continuos worry of change of places that he can not understand what for and can not be convinced of, leaves serious imprints on the child's psychological development. (Decant and Dumoulin, 1982).

Individuals manifesting anxiety trait do not require provoking circumstances, and their anxiety is likely to exert a constant influence upon their behavior. The origin of this anxiety may be related to inherent tempermental factors (Wolfson, et al., 1987) parental or family factors (Goodyer, et al, 1988), or other prior life experiences; yet persist to become an integrated part of the individuals personality resulting in chronically higher level of anxiety, but not necessarily a more intense anxiety than that experienced by others.

A large number of studies was conducted to assess the prevalence of anxiety disorders in normal children population. Sayed et al ,1994, found that prevalence of anxiety symptoms among primary school children was 7.9%; Abdel-Baky et al., 1988, found the prevalence of anxiety disorder among primary school children was 3.9%; Moussa et al., 1990, reported the prevalence rate of anxiety 2.24%. A study by Benjamine et al., 1990, based on

parent interview alone yielded 6.6% prevalence of anxiety in children.

In the current study anxiety disorders among hearing impaired group was 20% opposite to 6.7% recorded in the control group.

It was the most prevalent disorder among hearing impaired children in this study, this goes with Hindley et al., 1994, study; they reported in their study that the largest single group of disorders among the hearing impaired adolescents were anxiety disorders. Other studies support our results, Ingalls, 1946, in his study on hard of hearing patients, recorded 27% of patients were classified as psychoneurotic (mainly anxiety). Using the Eysenck Personality Inventory (EPI), Stephens, 1980, showed that the hearing impaired were found to be Significantly more introverted and neurotic, he suggested that emotional disturbance of more than transitory nature does occur in hearing loss. Jones et al., 1984, found that self assessed hearing difficulty related to anxiety and less strongly to depression using the SAD scale. Kellam, 1990, posits that failure to adapt to social and cognitive developmental demands and the resulting negative feedback from natural ratters in the hearing impaired children (e.g. teachers, peers or parents) within their respective social field may prove stressful for the child and result in decrements in psychological well-being, primarily reflected in anxious and depressive symptoms .

King and Stephens, 1992, revealed in their work that even patients who have auditory disability with normal hearing have a tendency to anxiety, depression and loneliness; they suggested that

bad strategies may lead to increased anxiety in those with auditory disability with normal hearing .

In the present study children with severe and moderate hearing loss showed more prevalence of anxiety disorders; 28.5% and 20.6% respectively, while mild hearing loss showed 16.7% prevalence of anxiety disorders. Psychometric scores using the Child Anxiety Scale (CAS) were also highly significant in mild and moderate hearing loss in whom the test was reliable.

Teele et al., 1990, explained this by the fact that hearing loss makes the child miss or confuse important acoustic cues, resulting in the encoding of incomplete or inaccurate information; so they are more likely than hearing children to be described as disobedient and restless, that leads to anxiety (Freeman et al., 1975). Anxiety disorders in sever hearing loss group can be explained by the frustration that they have during communication with other people, and possible rejection by their siblings and peer group.

Depression was found to be the most common psychiatric morbidity in hearing impaired patients in a study conducted by Knapp, 1948, Followed by anxiety, hypochondriasis and social phobia, suspiciousness and ideas of reference were also reported. Similar results were reported in Mahapatra`s, 1974 study in which depressive states were largely reported.

Ramsdell, 1970, argued that the deprivation of background noises was most intimately related to the feelings of depression to which hearing impaired were prone.

Several studies all over the world in varying populations have been carried out to estimate the prevalence of depression; yet they are still far away from being truly representative because of nosological and diagnostic controversies. (Kielholz, et al., 1982).

Okasha et al., 1988, reported that overall estimates of depressive disorders in Egypt was 15.3%, Abdel-Baky et al., 1988 reported 22.5% prevalence of affective disorders among psychiatric morbidity in primary school children.

Away from Egypt, Carlson, 1979, reported a 16% occurrence rate of depression in pediatric population, another recent study conducted by Larsson and Melin, 1992, identified 10% of school children aged 8-13 years as depressed.

In the current study depression was assessed in both control and study groups and showed 3.3%, 15% prevalence of depression in both groups respectively.

Gilhome et al., 1980, showed that a significant relationship between depression and hearing impairment as they record 41% prevalence of depression among hearing impaired group of moderate to severe hearing loss. In the present study depression was significant in severe and moderate hearing impaired group being 42.9% and 17.2% respectively.

Deaf children had a 6.5% prevalence of depression in Saudi Arabia. (Abol foutouh and Telmesani, 1993). However recent study conducted by Hindley et al., 1994, showed a paucity of depressive disorders in their hearing impaired children and adolescent study group, as only 2 children (2.5%) were diagnosed as depressed. This

can be explained by the difference in type of schooling as in current study non was attending deaf school and non used sign language opposite to Hindley's et al., study, in which all children were signing and attached to an integrated system whether deaf schools or hearing impaired units, this leads to more social maladjustment due to peer rejection, and frustration due to lack of communication both were more pronounced in the severe hearing loss group. Another explanation is that in Hindley et al., study DSM-III-R diagnostic criteria was used to evaluate depression in subjects; yet in the current study diagnosis of depression was made according to DSM-IV diagnostic criteria in which additional mood disorders were codified. It seems that those who experience adventitious loss of hearing frequently express feelings of depression, withdrawal and isolation more than congenital hearing loss (Meadow Orlans ,1985).

Phobia have been postulated to occur more in sensory deprived children In the present study phobia was diagnosed in 13.3% in hearing impaired group and 6.7% in the control group, which goes with the results of Dupont, 1983, who reported 5% occurrence of phobia in all pediatric patients. Only severe hearing impaired group showed significant phobic disorders-42.9%. A predominance of dark phobia in our study was noticed, this goes with results of Esmat, 1983, who reported 52% occurrence of phobia in deaf children opposite to 4% in normal controls. The high incidence of dark phobia in deaf children is due to the fact that deaf people are far more dependent upon visual symbols than people with normal hearing.

School phobia was also recorded in milder degrees of hearing loss, as children with mild hearing loss can attend school

for several years before their impairment are identified. Although they may have learned to compensate for their hearing difficulties in many school situations, yet those children with mild to moderate hearing loss frequently give the impression of inattention and stubbornness in the classroom thus triggering reprimand with subsequent development of psychological problem especially school phobia (Cornelius, 1979) due to bad experience in school. Social phobia could not be recorded in the present study. This may be due to sample age range in which social phobia rarely occurs and due to small size of the sample; yet social phobia was reported in Hindley et al.; 1994, study among deaf adolescents.

Experimental studies done in the field of sensory deprivation, showed that in the initial period of sensory deprivation, subjects appear relaxed; however they soon become bored and tend toward alternating sleep wakefullness. As time passes this leads to restless, irritability, brooding, anxiety and depression. They become increasingly sensitive to residual stimuli, body image distortion, and feelings of depersonalization develop as well as primitive fears; thought processes become more bizarre (Okasha,1987).

Gortmaker et al., 1990, reported also that children with long term deafness appear to be of greater risk than their hearing colleagues for having significant behavioral problems, also children with chronic health conditions have been considered at substantial risk for excess psychological morbidity. Canning et al, 1992, found that children with chronic illness reported higher levels of anxiety and depression.

In the current study depression was found to be directly proportional to prolonged duration of hearing loss, this goes with

Silverman and Davis, 1970, report about the invariable association between depression and deafness .

There are a variety of reasons to expect increased psychosocial morbidity among these children ; chronic or recurrent episodes of pain and diminished or altered physiologic function, may promote anxiety and depression. The presence of a chronic condition may also limit or alter social interaction and distinguish children form their peers, which in turn increases the risk of problems with normal psychological adjustment (Perrin et al., 1987).

Anxiety and phobia in our study seems to be inversely proportional to the duration of hearing loss, although phobia has a more persistent nature than anxiety disorders; this can be explained by the adaptation of the hearing impaired child to his handicap. Dorator et al, 1981, reported that child with prolonged duration of illness significantly suffer from depression, social withdrawal, sensitivity, fear and irritability respectively. Mattson, 1977, considered social withdrawal as a mechanism used by ill children in coping with their illness.

SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSIONS

Hearing is the primary sensory modality for acquisition of speech and language, providing a fundamental basis for social adjustment and normal psychological development.

Even mild or unilateral hearing loss during childhood has been shown to have a negative impact on language, hearing and child behavior. More severe hearing loss presents a major handicap for normal psychological development. The hearing impaired-child lives in a social world that is perceived as being somewhat a part. This permanent handicap limits the activity and developmental potential of children.

This study was done on 60 children with varying degrees of acquired hearing loss of more than one year duration, besides 30 apparently normal control children.

Full general, otolaryngologic and audiological evaluation were done for all children. The psychiatric diagnosis for all of these children was done according to DSM-IV (1994). Also, the specific psychological tests used in Ain Shams Psychiatric Center were applied to all the diseased children and the controls namely:

Children's Anxiety Scale .
Children's Phobia Scale.
Children`sDepression Inventory.

*Otitis media, whether suppurative or secretory is the most common cause of deafness in childhood.

*Meningitis is a common cause of deafness in early childhood and still one of the serious infections diseases in clinical practice.

*A good history, proper otolaryngological examination and full audiological evaluation are essential to permit classification of deafness into conductive, sensorineural, mixed or non-organic.

Screening tests of hearing are required to identify those children in need for further investigations.

*Clinically diagnosed anxiety is more significant among cases with hearing loss than the controls; and increases with the severity of hearing loss. Psychometric scores for anxiety are highly significant in mild and moderate hearing loss than the controls.

*Clinically diagnosed phobias are more significant among cases with hearing loss than the controls; and increase also with the severity of hearing loss, Psychometric scores for phobias are highly significant in moderate hearing loss than the controls.

*Clinically diagnosed depression is more significant among cases with hearing loss than the controls; and increases with the severity of hearing loss.

*Psychometric scores are not reliable for evaluation of cases with severe hearing loss.

*As the duration of hearing loss increases the prevalence of anxiety and phobias decreases whereas that of depression increases.

*The physician should be sensitive to the psychological and social consequences of hearing loss in children; school screening for early detection of any hearing loss should be carried out to avoid social and psychological problems in these children.

Much work remains to be done before we are able to ferret out the linkage between anxiety, phobia and depression and hearing loss in children.

APPENDIX

Children's Anxiety Scale.

I Children's Phobia Scale

II Children's Depression Inventory

V Audiological Evaluation (Examples)

I Children's Anxiety Scale

مقياس-ق-للأطفال

الاسم :..... الجنس:.....

السن :..... المدرسة :.....

الصف الدراسى:.....

التعليمات :

العبارات الى حتقراها دلوقت حاجات بتحصل كتير ذيك المطلوب منك أنك تشوف الحاجات دى بتحصل لك أم لا أذا كانت بتحصل لك ارسم دائرة حول كلمة **نعم** ، وازا كانت عمرها ما حصلت لك ارسم دائرة حول كلمة **لا** ولا تترك اى عبارة دون اجابة وشكرا.

المظاهر الجسمية	المظاهر الفسيولوجية	المظاهر الحركية	المظاهر الانفعالية	المظاهر العقلية	المظاهر الاجتماعية	الدرجة الكلية

١-	ساعات كثيرة احس بصداع فى دماغى	نعم	لا
٢-	باعرق بسرعة	نعم	لا
٣-	حاسس ان نشاطى بقى غير الاول	نعم	لا
٤-	انا عصبى	نعم	لا
٥-	دايما فكرى مشغول ببكرة	نعم	لا
٦-	احب اقعد لوحدى كثير	نعم	لا
٧-	لما يكون بالى مشغول معرفش ابلع الاكل او ابلعة بصعوبة	نعم	لا
٨-	وجهى يحمر بسرعة	نعم	لا

٩-	مبقاش لى نفس العب مع اصحابي زى الاول	نعم	لا
١٠-	مش حاسس أنى مرتاح	نعم	لا
١١-	مش عارف اركز في درسى	نعم	لا
١٢-	انا مليش اصحاب كتير	نعم	لا
١٣-	ساعات كتير ماما او بابا يقولوا لى أن وجهك اصفر	نعم	لا
١٤-	لما أفكر فى حاجة مهمة قلبى يدق بسرعة قوى	نعم	لا
١٥	بقيت اتعب من اقل مجهود	نعم	لا
١٦-	حاسس أني زهقان	نعم	لا
١٧-	حاسس أن مستواى في المدرسة بقى أقل من الأول	نعم	لا
١٨-	أصحابي بيزعلوا منى علشان مبرضاش العب معاهم زى الأول	نعم	لا
١٩-	صحتي مش كويسة دلوقتى	نعم	لا
٢٠-	ساعات باحس أنى مش عارف اتنفس وأني مخنوق	نعم	لا
٢١-	حركتي قلت عن الأول	نعم	لا
٢٢-	ساعات بأحلم احلام وحشة بالليل	نعم	لا
٢٣-	كل ماافتح كتاب الاقى نفسى سرحت	نعم	لا
٢٤-	خسرت اصحاب كثير فى الايام الأخيرة	نعم	لا
٢٥-	ساعات كثير مبيبقاش لى نفس للأكل	نعم	لا
٢٦-	ساعات كثير بيجينى اسهال	نعم	لا
٢٧-	ساعات يلاحظ علي الناس بعض الحركات العصبية	نعم	لا
٢٨-	أنا دائما محتار	نعم	لا
٢٩-	بقيت أنسى كل اللى اذاكره	نعم	لا
٣٠-	ساعات بابقى مش عايز اشوف حد	نعم	لا
٣١-	وزنى نقص في الأيام الاخيرة	نعم	لا
٣٢-	ساعات احس بزغللة في عيني	نعم	لا
٣٣-	ساعات احس اني مش قادر اقعد على كرسي لمدة طويلة وعايز اتحرك من مكان لمكان	نعم	لا
٣٤-	أنا دايما مهموم (شايل الهم بدرى)	نعم	لا
٣٥-	كل اللى يشوفني يقول لي اني كنت أحسن من كدة في المذاكرة	نعم	لا
٣٦-	باحس انى متضايق من رأى الناس في الآن	نعم	لا

II Children's Phobia Scale

إخـتبـار الـمخاوف "الفوبيات" للأطفال

الأســـــم : .....

المـدرسـة : .....

الـعــمــر : .....

إقرأ العبارات التالية وضع علامة (√) تحت "نعم" إذا كانت العبارة تعبر عن ماتشعر بة وضع علامة (√) تحت "لا" إذا كانت العبارة لاتعبر عن ماتشعر به.

١-	بتخاف خوف شديد إذا كنت فى مكان ضيق؟	نعم	لا
٢-	بتحس أنك خائف يجيلك مرض مالوش علاج؟	نعم	لا
٣-	بتتضايق وتخاف لما تركب قطار لأو أتوبيس حتى لو ماكانوش زحمة؟	نعم	لا
٤-	بتخاف خوف شديد إذا كنت فى مكان زحمة؟	نعم	لا
٥-	بتخاف من الأدوار العالية او الأماكن المرتفعة؟	نعم	لا
٦-	وأنت فى مكان عالى بتشعر انك حتقع من هذا المكان؟	نعم	لا
٧-	بتحس بالرعب فى الأماكن الضلمة؟	نعم	لا
٨-	وأنت فى الضلمة بيتهيأ لك أن فيه ناس بتكلمك؟	نعم	لا
٩-	بتخاف تروح السرير لوحدك بالليل علشان تنام؟	نعم	لا
١٠-	بتحس برعشة لما تكون فى الضلمة؟	نعم	لا
١١-	بتخاف من حاجات او ناس أنت عارف أنهم مش مؤذيين؟	نعم	لا
١٢-	بيتهيأ لك فى الضلمة أن فيه ناس موجودين على الحائط؟	نعم	لا
١٣-	بتحس بالخوف لما تدخل مكان فيه ناس مجتمعين وبيتكلموا؟	نعم	لا
١٤-	بتحس برعشة ودوخة لما تشوف كلب او قطة؟	نعم	لا
١٥-	بتخاف تقعد فى الأوضة لما تكون ضلمة؟	نعم	لا
١٦-	بتجرى بسرعة وقلبك يدق بسرعة لما تشوف كلب او قطة؟	نعم	لا
١٧-	بتخاف من الفئران وقلبك يدق بسرعة لما تشوفهم؟	نعم	لا
١٨-	بتخاف من الصراصير وقلبك يدق بسرعة لما تشوفهم؟	نعم	لا

١٧- بتخاف من الفئران وقلبك يدق بسرعة لما تشوفهم؟ نعم لا

١٨- بتخاف من الصراصير وقلبك يدق بسرعة لما تشوفهم؟ نعم لا

١٩- بتحس بخوف شديد لما تشوف ثعبان حتى لو كان فى صورة او فى التليفزيون؟ نعم لا

٢٠- بتخاف تروح دورة المية لوحدك لما تكون الدنيا ضلمة؟ نعم لا

III Children's Depression Inventory

مقياس (د) للصغار (CDI)

إختبار الإكـتـئاب للأطفــال

الأســـــــــــم : ..... **تاريخ اليوم :** / /

المستوى التعليمى : ..... **تاريخ الميلاد:** / /

أحيانا مايشعر الصغار والشباب ببعض المشاعر ويفكروا فى بعض الأفكار وفى هذه الورقة بعض المشاعر والأفكار مكتوبة فى صورة مجموعات ، كل مجموعة بتتكون من ثلاث عبارات ، عليك ان تختار عبارة واحدة من كل مجموعة من العبارات بتشوف انت ان العبارة دية بتوصفك خلال الأسبوعين الأخيرين ، ثم ضع علامة × فى الصندوق المجاور للعبارة اللى أنت اخترتها ، وبعد كده انتقل لمجموعة العبارات اللى بعدها ، وهكذا حتى تنتهى من الورقة .

خلى بالك ما فيش اجابة صح او اجابة غلط ولكن المطلوب منك هــو أن تختار عبارة واحدة من كل مجموعة ، وتكون العبارة دية هى اللى أنت بتشوف أنها بتوصف حالتك ، وعلى سبيل المثال شوف مثلا المجموعة دية :-

- [×] - أنا أقرأ كتب طول الوقت .
- [ ] - أنا أقرأ الكتب احيانا .
- [ ] - أنا عمرى ما قريت كتب .

اذا كانت العبارة الأولى تنطبق عليك وبتوصفك فى الأسبوعين الأخيرين ضع علامة × فى الصندوق المجاور لها تماما زى المثال اللى فوق .

إفتكر انك تختار العبارة اللى بتوصف مشاعرك وأفكارك في الأسبوعين الأخيرين .

١- [ ] - بأبقى حزين احيانا .
- [ ] - بأبقى حزين فى أوقات كثيرة .
- [ ] - بأبقى حزين طول الوقت .

٢- ☐ - مافيش حاجة حاتمشى كويس بالنسبة لى أبدا .
☐ - أنا مش متأكد من أن الأشياء والظروف حتبقى كويسة بالنسبة لى.
☐ - الأشياء والظروف حاتبقى كويسة بالنسبة لى.

٣- ☐ - أنا بأعمل اغلب الحاجات بطريقة كويسة .
☐ - أنا بأعمل حاجات كثيرة بطريقة غلط .
☐ - أنا بأعمل كل حاجة بطريقة غلط .

٤- ☐ - فية حاجات كثيرة بتسلينى .
☐ - بعض الحاجات والأشياء بتسلينى .
☐ - مافيش حاجة بتسلينى .

٥- ☐ - فى كل الأوقات أنا وحش أو مش كويس .
☐ - فى أوقات كثيرة بأكون وحش أو مش كويس .
☐ - أحيانا بأكون وحش أو مش كويس .

٦- ☐ - أحيانا بأفكر فى أشياء وحشة (مش كويسة) بتحصل لي .
☐ - أنا قلقان ومشغول من أن بعض الأشياء اللى مش كويسة حاتحصل لى.
☐ - أنا متأكد أن أشياء فظيعة حاتحصل لى .

٧- ☐ - أنا بأكره نفسى .
☐ - أنا لا أحب نفسى .
☐ - أنا بأحب نفسى .

٨- ☐ - كل الحاجات الوحشة أو اللى مش كويسة بتكون بسببى أنا .
☐ - كثير من الحاجات الوحشة أو اللى مش كويسة بتكون بسببى أنا .
☐ - مش دايما الحاجات الوحشة أو اللى مش كويسة بتكون بسببى أنا .

٩- ☐ - أنا مابفكرش فى أنى أموت نفسى .
☐ - أنا بأفكر فى أنى أموّت نفسى لكن مش حاأعمل كدة .
☐ - أنا عايز أموّت نفسى

١٠- ☐ - يوميا بأشعر بأنى عايز أعيط (أبكى) .
☐ - فى أوقات كثيرة بأشعر بأنى عايز أعيط .
☐ - أحيانا بأشعر بأنى عايز أعيط .

١١- ☐ - فية أشياء بتضايقنى طول الوقت .
☐ - فية أشياء بتضايقنى طول اوقات كثيرة .
☐ - فية أشياء بتضايقنى أحيانا .

١٢- ☐ - أنا بأحب أكون مع الناس .
☐ - فى أوقات كثيرة أنا ما أحبش أكون مع الناس .
☐ - أنامش عايز أكون مع الناس أبدا .

١٣- ☐ - أنا ما أقدرش (لا أستطيع) أن أقرر أو أحدد رأى فى الأشياء .
☐ - من الصعب علىّ أنى أقرر أو أحدد رأى فى الأشياء .
☐ - أنا بأقرر أو أحدد رأى فى الأشياء بسهولة .

١٤- ☐ - أنا شكلى كويس .
☐ - فية بعض الحاجات مش كويسة فى شكلى .
☐ - أنا شكلى مش كويس أو وحش .

١٥- ☐ - يجب على أن أدفع نفسى طول الوقت علشان أعمل واجبات المدرسة .
☐ - يجب على أن أدفع نفسى أكثر من مرة علشان أعمل واجبات المدرسة .
☐ - واجبات المدرسة مش مشكلة كبيرة بالنسبة لى .

أفتكر أنك تصف حالك فى الأسبوعين الأخرين .

١٦- ☐- كل ليلة بيبقى صعب على أنى أنام .
☐- فى ليالى كثيرة بيبقى صعب على أنى أنام .
☐- أنا بأنام كويس جدا .

١٧- ☐- بأشعر أحيانا بأنى مجهد أو تعبان .
☐- بأشعر فى أوقات كثيرة بأنى مجهد أو تعبان .
☐- بأشعر طول الوقت بالتعب والأجهاد .

١٨- ☐- فى غالبية الأيام بيبقى ماعنديش نفس للأكل .
☐- فى أيام كثيرة بيبقى ماعنديش نفس للأكل .
☐- أنا بأكل كويس جدا .

١٩- ☐- أنا مش قلقان من أى ألام أو أوجاع .
☐- فى مرات كثيرة بأبقى قلقان من بعض الألام والأوجاع .
☐- طول الوقت بأبقى قلقان من بعض الألام والأوجاع .

٢٠- ☐- أنا لا أشعر بالوحدة .
☐- فى أوقات كثيرة بأشعر بالوحدة .
☐- طول الوقت بأشعر بالوحدة .

٢١- ☐- أنا عمرى ما شعرت بالمتعة فى المدرسة .
☐- أحيانا بأشعرت بالمتعة فى المدرسة .
☐- فى أوقات كثيرة بأشعرت بالمتعة فى المدرسة .

٢٢- ☐- أنا عندى أصحاب كثيرة .
☐- أنا عندى بعض الأصحاب ولكن باتمنى يكون عندى أصحاب أكثر .
☐- أنا ماعنديش ولا صاحب .

٢٣- ☐- عملى - شغلى - المدرسى كويس .

☐- عملى المدرسى مش كويس زى ما كان قبل كدة .

☐- عملى المدرسى وحش قوى فى مواد كنت دايما كويس فيها .

٢٤- ☐- أنا لايمكن أن أكون كويس مثل بقية زملائى .

☐- لو أردت ، فأنى أقدر أكون كويس مثل باقى زملائى .

☐- أنا كويس زى باقى زملائى .

٢٥- ☐- فى الحقيقة ما فيش حد بيحبنى .

☐- أنا مش متأكد أن فية حد بيحبنى .

☐- أنا متأكد من أن بعض الأشخاص بيحبونى .

٢٦- ☐- أنا فى العادة بأعمل اللى بيطلب منى .

☐- فى أغلبية الأوقات أنا مش بأعمل اللى بيطلب منى .

☐- أنا عمرى ما عملت اللى بيطلب منى .

٢٧- ☐- أنا بأنسجم مع الناس .

☐- فى أوقات كثيرة أنا بأتورط فى خناقات .

☐- طول الوقت أنا بأتورط فى خناقات .

النهايـــــة

وشكرا للإجابة على الأسئلة

المجموع ☐

التطبيـــق فردى | جماعى

AIN SHAMS UNIVERSITY HOSPITALS
E.N.T. DEPARTMENT
AUDIOLOGY UNIT
CLINIC : .....

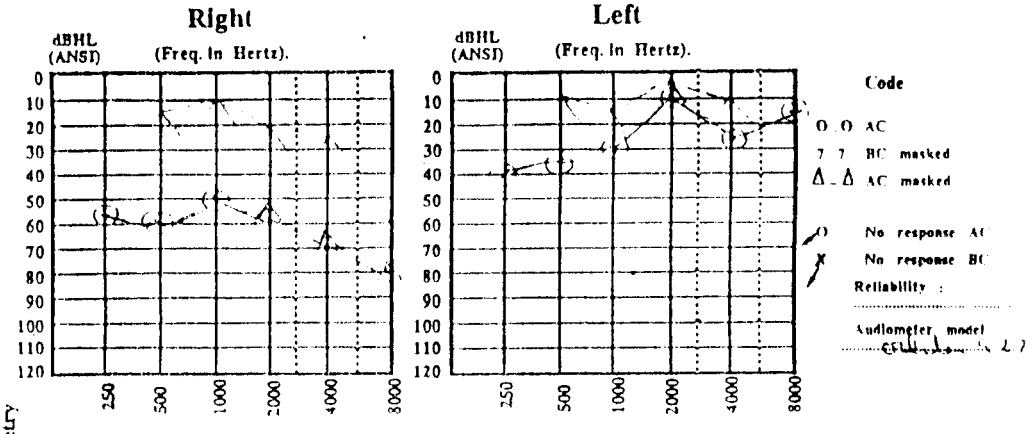
مستشفيات جامعة عين شمس
قسم الأنف والأذن والحنجرة
وحدة السمع
عيادة : .....

BASIC AUDIOLOGICAL EVALUATION

Name : ..... Age : ..... Sex : ..... Date : ..... Ref. : .....

Address : ..... Occupation : ..... Examiner : .....

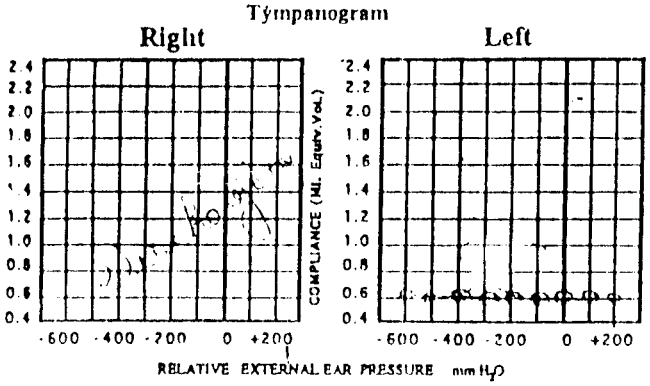
Pure-Tone Audiometry



Arabic Speech Audiometry

Ear	SRT	Intensity dB HL	Discrimination Scores %	Masking SRT	Masking D.S.
Right					
Left					
Remarks :					

Tympanogram



Otological Examination

Right ear : .....

Left ear : .....

Immittancemeter model :

.....

Remarks : .....

Aeoustic Reflex Thresholds (dB HTL)

Frequency KHz	0.5	1	2	4		
Right Ear						
Left Ear						

Tuning Fork Tests :

.....

.....

.....

.....

EAR, NOSE & THROAT DEPARTMENT
UNIT OF AUDIOLOGY

Abbassia, Cairo, Egypt

قسم الأنف والأذن والحنجرة
وحـــدة السمع
العباسية - القاهرة
جمهورية مصر العربية

مقياس ضغط الأذن

ACOUSTIC IMMITTANCE TESTS

Name..... Date..... Age..... Sex..... Ref.....

Address..... Tel.No..... Occupation .....

Examiner Hanan

Complaint: pain in both ears of 2 weeks duration accompanied common cold - history of bilateral Grommet's tube insertion

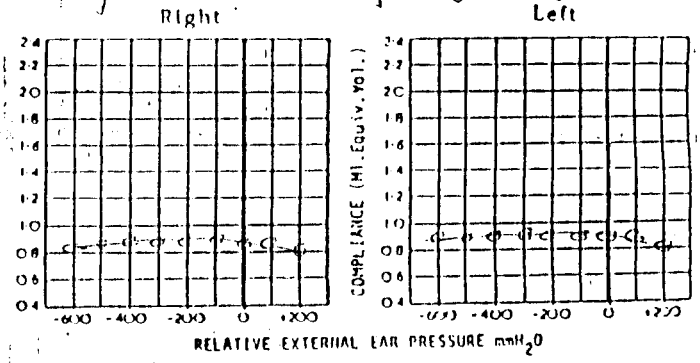
History of: since 2 years in El Demerdash - Hospital.
* there is diminution of hearing accompanies the pain and common cold

- **Upper respiratory tract infections:**
- **Allergy:**
- **Previous medications:** Emox - phenolamine Bisolvone
- **E.N.T. operations:** Tonsillectomy - adenoidectomy one year ago

Otologic Examination:

Right ear: Bilat. retracted

Left ear: immobile TM



Audiometer model:

Acoustic Reflex Thresholds (dBHL)

	0.5	1	2	4KHz
Stimulus: RE	NR	NR	NR	NR
LE	NR	NR	NR	NR

Diagnosis:

Bilat. type 'B' tympanograms suggesting otitis media with effusion

Recommendations:

(II)

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المستخلص العربى

أجريت هذه الدراسة على ٦٠ طفلاً من أعمار تتراوح بين ٧-١١ سنة يعانون من درجات متفاوته من ضعف السمع المكتسب توصيلى وعصبى أو توصيلى-عصبى، إلى جانب ٣٠ طفلاً كعينة ضابطة لا يعانون من ضعف السمع بنفس التوزيع العمرى والنوعى وكانت مدة فقد السمع تتراوح من ١-٥ سنوات وتم إجراء فحص طبى شامل وأنف وأذن وحنجره وتقييم سمعى لكل الأطفال كما تم إجراء تقييم نفسى لكل الأطفال لإكتشاف القلق، المخاوف والاكتئاب بإستخدام المقابلة التشخيصية والإختبارات النفسية المستخدمة فى مركز الطب النفسى بجامعة عين شمس وقد لوحظ أن القلق والمخاوف والإكتئاب كانت نسبتهم أعلى فى حالات ضعف السمع أكثر من العينة الضابطة كما أظهرت الدراسة أنه كانت هناك زيادة فى معدلاتهم كلما زادت شدة فقد السمع وكان القلق أكثر الأمراض النفسية إنتشاراً فى الأطفال ذوى ضعف السمع. وكلما زادت مدة فقد السمع قل نسبة حدوث القلق والمخاوف وزاد الإكتئاب.

الكلمات المفتاحية :

سيكولوجية - ضعف السمع - الطفولة - المخاوف القلق - الإكتئاب.

الملخص العربى

السمع هو الوسيلة الحسية الأوليه لأكتساب الكلام واللغه ، وهو يعد قاعده أساسيه للتكيف الأجتماعى والتطور السيكولوجى الطبيعى .

حتى مع ضعف السمع البسيط أو ذو الناحية الواحده فى فتره الطفوله ، ظهر أن له تأثيرا سلبيا على اللغه والتعليم وسلوك الطفل . وضعف السمع الشديد يعتبر معوقاً كبيراً للتطور السيكولوجى الطبيعى . والطفل ضعيف السمع يعيش فى عالم أجتماعى يستقبله على أنه جزء منفصل عنه وهذه الأعاقة الدائمه تحد من النشاط والتطور الكامن لدى الأطفال وقد أجريت هذه الدراسة على ٦٠ طفلاً يعانون من فقد السمع المكتسب بدرجات مختلفه لمده لاتقل عن سنة واحده ، بالأضافة إلى ٣٠ طفلاً لايعانون من ضعف السمع كعينة ضابطة أخرى تقييم شامل وفحص للأذن والأنف والحنجره والفحص السمعى لكل الأطفال فى العينتين والتشخيص النفسى لكل الأطفال تم بأستخدام دى-أس-إم-٤ (١٩٩٤) وتم تطبيق الأختبارات النفسيه والتى تستخدم فى مركز الطب النفسى بطب عين شمس وهى :-

- أختبار القلق للأطفال

- أختبار المخاوف للأطفال

- أختبار الأكتئاب للأطفال

التهاب الأذن الوسطى سواء الصديدى أو الأفرازى يعد أكثر أسباب فقد السمع شيوعا . ويعد الألتهاب السحائى سبباً شائعاً لفقد السمع فى فتره الطفولـه الأولـى ويعتبر واحدا من أخطر الأمراض المعدية فى المجال الإكلينيكـى التاريخ المرضى والفحص الجيد للأذن والأنف والحنجره والتقييم السمعى يعتبر أساساً لتقييم نوع فقد السمع من صمم توصيلى ، صمم عصبى ، صمم توصيلى عصبى والصمم الغير عضوى . كما أن الأختبارات المغربله للسمع تعتبر ضرورية للتعرف على الأطفال الذين هم فى حاجة لفحوصات أخرى . ومن هذه الدراسة ظهر أن هناك فرق ذو دلاله إحصائيه بين حالات القلق التى تم تشخيصها أكلينيكيا من عينه الدراسة والعينه الضابطة لصالح عينة الدراسة ، وهذا الفرق يزداد بزيادة شدة فقد السمع . وقد حقق القياس النفسى للقلق درجات أعلى فى فقد السمع البسيط والمتوسط عنه فى العينه الضابطة ، وهذا الفرق ذو دلاله إحصائيه . كذلك هناك فرق ذو دلاله إحصائيه بين حالات المخاوف التى تم تشخيصها أكلينيكيا من بين عينه الدراسة والعينه الضابطة لصالح عينة

الدراسة والتى أظهرت زيادة فى عدد حالات المخاوف مع إزدياد شدة فقد السمع . كما أظهرت نتائج القياس النفسى للمخاوف زيادة فى درجات الأختبار فى الأطفال ذوى فقد السمع المتوسط عنه فى العينه الضابطة .

كما ظهر أيضا من الدراسة أن هناك فرق ذو دلاله إحصائيه فى عدد حالات الأكتئاب التى تم تشخيصها إكلينيكيا فى عينة الدراسة عنه فى العينة الضابطة لصالح عينة الدراسة وأن هناك زياده فى عدد حالات الأكتئاب متناسبه طرديا مع شدة فقد السمع . وأظهر القياس النفسى للإكتئاب زيادة فى درجات الأختبار فى فقد السمع البسيط والمتوسط عن درجات الأختبار فى العينة الضابطة . وقد كان القياس النفسى غير ملائم لتقييم حالات فقد السمع الشديد .

كذلك ظهر من هذه الدراسة أنه كلما ازدادت مدة فقد السمع قل حدوث القلق والمخاوف ولكن ازدادت نسبة الإكتئاب . ومن هنا يجب إجراء المسح المدرسى للكشف المبكر عن حالات فقد السمع لتجنب المشاكل النفسية والأجتماعية كما يجب على الطبيب أن يكون مستشعراً بالتبعات السيكولوجية والأجتماعية لضعف السمع لدى الأطفال ويبقى هناك الكثير من العمل لأستكشاف الرابطة بين القلق ، والمخاوف والأكتئاب وفقد السمع لدى الأطفال .

"جامعة عين شمس"
الكلية:

صفحة العنوان

أسم الطالب : نشوة نصري السيد سليمان
الدرجة العلمية : ماجستير
القسم التابع له : القسم الطبي
أسم الكلية : معهد الدراسات العليا للطفولة
الجامعة : عين شمس
سنة التخرج : ديسمبر ١٩٩١
سنة المنح : ٢٠٠٢

شروط عامة

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الكليـــة:

رسالـــة ماجســـتير / دكتـــوراه

أسم الطـــالب: نشوة نصر السيد سلمان

عنوان الرسالة: دراسة عبر ثقافية لبعض المشكلات السيكولوجية لدى الأطفال المكتئبين في الطفولة المتأخرة

أســم الدرجـــة : (ماجستيـــر / دكتـــوراه) ~~دكتوراه~~

لجنـــة الإشـــراف

١ – الاسم/ أ.د. زينب شقير عبد الحميد ٢ – الوظيفة/ أستاذ الإرشاد النفسي المتفرغ

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تاريخ البحـــث : / / ١٩٩٢

الدراســـات العليـــا
تختـــم الإجـــازة :
/ / ١٩٩

أجيزت الرسالـــة بتاريخ / /

موافقة مجلس الكلية
/ / ١٩٩

موافقة مجلس الجامعة
/ / ١٩٩

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الكليــة :

شكـــــــــــر

اشكــر الســادة الأســاتذة الذين قامــوا بالاشــــراف وهـــم :

1) أ.د مصطفى [illegible] . . . . .

2) أ.د. احمد سعد . . . . . .

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ثم الأشخاص الذين تعاونوا معي في البحث وهم :

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وكـــذلك الهيئـــات :

1) معهد الدراسات العليا للطفولة

2) قسمي الأذن والأنف والحنجرة جامعة عين شمس

3) قسم الطب النفسي جامعة عين شمس

دراسة عن النواحى السيكولوجية لفقد السمع المكتسب فى الطفولة المتأخرة

رسالة مقدمة توطئه للحصول على درجة الماجستير
فى دراسات الطفولة

من الطبيبة

نشوة نصر السيد سليمان

تحت إشراف

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مدرس الأمراض النفسية
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١٩٩٦