CHAPTER I

INTRODUCTION

Stuttering has been featured prominently in our society at large. Because of the unusual-sounding speech that is produced, as well as the behaviors and attitudes that accompany a stutterer, stuttering has frequently been a subject of scientific interest, curiosity, discrimination, and ridicule. Stuttering was, and essentially still is, a riddle with a long history of interest and speculation into its causes and cures. Stuttering can be found in all parts of the world in all cultures and races. It affects people of all ages regardless of intelligence or socioeconomic status. No speech problem has received so much attention over such an extended period of time as stuttering. As a global, pan-cultural motor disturbance of speech, it has afflicted humans for 1000s of years. It is one of the oldest speech problems noted in the history of speech and language.

Need and Significance of the Present Study

Communication is essential to learning, playing, and social interaction and can affect every aspect of a person's life. Impaired communication may impact development of a person's social and emotional skills, cognitive skills, and academic skills. Communication delay may have an impact on the person's ability to form relationships and can also affect the overall development. The personality profile of the stutterer is more or less complicated. Stuttering is considered as a common disorder being faced by the people all over the world. This speech disorder got comparatively less importance than any other communication problem. Severe form of stuttering are most often observed in adults, and children and adolescents can also be similarly affected. In pre-school and young school-aged children, stuttering can leads to social and school-related anxiety which often results in poor academic achievement. An adolescent stutterer tends to withdraw from normal social interaction and the young adult stutterer often reports feelings of restricted academic and career
choices and often forgoes the opportunity to develop specific talents and career paths. Starting from a small family get together to a crowded social programme, this problem tends to keep the victim aloof. Such situations can serve as a source for the stutterers to develop many psychosocial problems leading them to withdraw from social gatherings. This inspired the investigator to study certain psychosocial variables affecting the stutterers, which seems to have relevance in their life. For people who stutter, each dysfluency can be a fearful, anxiety-filled experience. A life filled with these difficult experiences can affect a person's self-esteem, personality, personal relationships and adjustments. Stuttering affects friends and family of the person who stutters. Moreover, family and friend's reactions and feelings about the stuttering can have a significant impact on the person who stutters.

Speech and language clinicians are showing an increasing interest in the possible psychological factors which may be contributing to the problem of maintenance of fluency. So the present study is an attempt to study some of the psychological factors that adult stutterers are facing and to compare that with non stutterers.

**Stuttering**

Stuttering is a communication disorder involving disruptions, or “dysfluencies”, in a person’s speech. Of all the various types of communication disorders, stuttering has probably received the most attention because of the way in which it dramatically exposes many of the unpleasant sides of social living. Stuttering is a part of human genome. All languages have words that describe this phenomenon. It is difficult for the people who stutter to speak more easily and they themselves have a negative impression about themselves, their speaking ability and they were not able to communicate more effectively with others.
Effective communication is an essential of everyday life, and stuttering impairs this function. Communication is integral to overall developmental progress in all individual, particularly in the cognitive, social-emotional, and adaptive development. Human newborns enter the world with limited but functional repertoires of behaviors that serve as communication signals to attentive caregivers. For example, an infant's cry is usually a sign of distress; smiles and coos signal pleasure; and hand sucking may signal hunger.

Communication is the process used to exchange information with others and includes the ability to produce and comprehend messages. Communication includes the transmission of all types of messages, including information related to needs, feelings, desires, perception, ideas, and knowledge. It also occurs through a variety of modalities, including nonlinguistic, verbal, and paralinguistic processes.

**Communication Disorder**

The American Speech and Hearing Association (ASHA) define communication disorder as:

"Impairment in the ability to receive, sends, process, and comprehends concepts or verbal, nonverbal and graphic symbol systems. A communication disorder may be evident in the processes of hearing, language, and/or speech. A communication disorder may range in severity from mild to profound. It may be developmental or acquired. Individuals may demonstrate one or any combination of the three aspects of communication disorders. A communication disorder may result in a primary disability or it may be secondary to other disabilities" (ASHA, 1993).

Communication disorders may range from sound substitutions to the inability to use speech and language. Young children with a communication disorder may show delays or atypical development in one or more of the following areas:
Articulation: It is the motor movement involved in production of speech sounds.

Fluency: It is the overall flow or rhythm of speech production.

Language Comprehension: (also referred to as reception or processing) It is the final result and intermediate processes in the analysis and understanding of speech. It includes a series of stages beginning with speech perception, sound identification, identification and access to words, morphological and syntactic analysis, and application of word knowledge.

Language Production: It is the spoken or gestural (in American Sign Language) expression of language.

Morphology: It is the smallest meaningful units in language including words that can stand alone and syllables or sounds that can add meaning to words and the rules for combining these units.

Phonology: It is the component of language that includes consonants and vowels, sound features, syllables, syllable features (such as syllable stress), and rules for combining sounds and syllables to form words and phrases.

Pragmatics: It is the use of language in context including implicit and explicit communicative intent, nonverbal communication (such as intonation, communicative gestures, and facial expressions), social aspects of communication, and discourse (turn-taking, topic maintenance, etc.).

Semantics: It is the meaning of words and the meaningful roles of words in phrases or sentence contexts.

Syntax: It is the rules governing the order and relationships among words or phrases in sentences.

Voice: It is the vocal quality, pitch, and intensity of speech.

Children begin to develop the communicative skills that form the foundation of language in very early infancy, long before they begin to produce
their first words and sentences. The most severe communication disorders in young children are usually associated with other developmental disabilities or severe hearing loss/deafness and are usually noticed as part of delayed development during infancy. Delayed production of words may be the first indicator of a communication disorder in some children.

**Types of Communication Disorders.**


A language disorder refers to impaired comprehension and/or use of spoken, written and/or other symbol systems. Language disorders include any delay or disability affecting the child's ability to comprehend (receptive language) and/or appropriately use words or gestures (expressive language).

A speech disorder is an impairment of the articulation of speech sounds, fluency, and/or voice. All disorders affecting the child's ability to produce clear, intelligible spoken language are considered as speech disorders. In general, speech disorders include:

**Voice disorders**- A voice disorder may be defined as any deviation in pitch, intensity or quality which either consistently interferes with communication in such a way as to adversely affect the speaker or the listener, or is inappropriate for the sex, age, or cultural background of the individual.

**Fluency disorders**- Dysfluency or stuttering is an involuntary repetition, prolongation, or blockage of a word or part of a word that the child is trying to say. There are many patterns of speaking that are recognized as stuttering in young children, including repetitions of phrases, words, syllables and sounds, sound prolongations, unexpected pauses, revisions, and interjections.
Disorders of articulation and phonology - Articulation refers to individual speech sounds, and phonology refers to groups of sounds. The term "articulation disorder" refers primarily to speech sound disorders in which the underlying problem appears to be in the motor-speech production mechanism. The term "phonological disorder" refers to sound errors that affect a class of sounds or a sound sequence.

A hearing disorder is the result of impaired auditory sensitivity of the physiological auditory system. Hearing disorders are classified according to difficulties in detection, recognition, discrimination, comprehension, and perception of auditory information. Individuals with hearing impairment may be described as deaf or hard of hearing.

The word ‘stuttering’ can be used to refer either to the specific speech dysfluencies that are commonly seen in people who stutter or to the overall communication difficulty that the stuttering people may experience. The people who stutter often experience physical tension and struggle in their speech muscles, as well as embarrassment, anxiety and fear about speaking. All these symptoms can make it very difficult to people who stutter to say what they want to say and to communicate effectively with others.

History of Stuttering

The history of the problem of stuttering, one of the best known yet least understood disorders of communication begins with several brief mentions of “trauloi by Hippocrates (460- 377 B. C ). This word refers to a speech defect of some kind, but its exact meaning is far from clear. According to Galen (131- ca 200 A. D), the history of stuttering is largely derived from his commentaries, atleast upto the beginnings of the scientific revolution of the 17th century and a few general remarks would be in order. Firstly it is impossible to understand the earlier history of stuttering unless realizing that no basic distinction was made between stuttering, cluttering, disarthria, functional articulation problems
and even some types of aphasia. Secondly as a corollary to this, the terminology for these various conditions was anything but precise. Each of the terms traualosis, psellismos, blaesitas, balbuties and to some extent mogilalia were used to describe every one of these conditions. Thirdly the humoral system of medicine, which Galen espoused, and which became the frame work of medieval and renaissance medicine, made no diagnostic disjunction between mind and body. For this reason, it is somewhat misleading to think in terms of a “humoral physiology” and a “humoral psychology”, because no real separation appeared until the humoral system was already in an advanced state of decay. Galen believed that different people stuttered for different reasons, depending upon their respective components of heat, dryness, moisture and cold. Aristotle (384-322 BC) used the term ‘ischnophonia’ to refer to stuttering, contenting that it resulted from a conflict between various body humors. Galen’s theories regarding the humoral system formed the basis for Medieval and Renaissance medicine, but this promoted little understanding of the motor dynamics of speech output. (Rosenfield, 1984).

In Roman times, stutterers were viewed as being possessed by evil spirits. But later during the Middle Ages, it was commonly thought that stutterers tongue were somehow inadequate for the fluency demand of speech.

There is reference to stuttering in ancient Sanskrit literature, but the term used ‘vaksamga’ may mean either difficulty in speaking or unintelligibility of speech. (Savitri, 1988).

**Definition**

It has long been recognized that there is no adequate definition of stuttering. This lack of consensus has considerable theoretical implications. Theoretically at least, a lack of operational definition of stuttering could result in there being two competing theories that are supported by evidence but that
offer quite different explanations of stuttering simply because they are in fact explaining two different phenomenon.

Some of the recent and current definitions of stuttering are the following:

According to the definition provided by the International Classification of Diseases, which draws on a definition offered by Andrews and Harris (1964), stuttering consists of: “disorders of the rhythm of speech, in which the individual knows precisely what he/she wishes to say, but at the same time is unable to say it because of an involuntary repetition, prolongation or cessation of a sound”. (WHO, 1977).

According to ICD-10 (WHO, 1992) stuttering is defined as “speech that is characterized by frequent repetition or prolongation of sounds or syllables or words, or by frequent hesitation or pauses that disrupt the rhythmic flow of speech”. Minor dysrhythms of this type are quite common as a transient phase in early childhood or as a minor, but persistent speech feature in later childhood and adult life. They should be classified as a disorder only if their severity is such as markedly to disturb the fluency of speech. There may be associated movements of the face and/or other parts of the body that coincide in time with the repetitions, prolongations or pauses in speech flow. (ICD-10, F 98.5).

Cooper (1993) defines stuttering as “a diagnostic label referring to a clinical syndrome characterized most frequently by abnormal and persistent dysfluencies in speech accompanied by characteristic affective, behavioral and cognitive patterns”.

Peters and Guitar (1991) defines stuttering as “a disorder of the neuromotor control of speech, influenced by the interactive process of language production, and intensified by complex learning processes”.

8
According to Sheehan (1970) stuttering is “a disorder of the social presentation of the self. Basically stuttering is not a speech disorder but a conflict revolving around self and role, an identity problem”.

Perkins (1984), on the basis of his argument that only the person who stutters knows when a stutter actually occurs, defined stuttering as “temporary overt or covert loss of control of the ability to move forward fluently in the execution of linguistically formulated speech”.

Wingate’s (1964) definition of stuttering is probably the most accepted one by professionals in this area. He defines stuttering as a “disruption in the forward flow of speech which is characterized by involuntary, audible or silent, repletion or prolongation in the utterance of short speech elements, namely sounds, syllables and words of one syllable. These disruptions usually occur frequently or are marked in character and are not readily controllable”. This definition included descriptions of accessory movements of the speech mechanism or other parts of the body. These accessory features of stuttering accompany the disruptions of verbal fluency and may be seen as being related to the struggle behaviors of stuttering. Wingate stated that the individual who stutters often experiences alterations in emotion that may be as general as an increase in tension or excitement or as specifically negative as the occurrence of fear, embarrassment, or similar emotions. Chronic stuttering may be accompanied by ocular, auditory or physiological manifestations such as eye movements, grimaces or linguistic circumlocutions which may occur when the speaker tries to avoid certain words. The presence and severity of stuttering vary and may be predicted to some extent by the communicative environment and the words being uttered.

**Characteristics of Stuttering**

Speaking in a formal situation is a strain than speaking in an informal situation. A child stutterer feels being trapped in social speaking situations.
During such situations there is an increase in tension and anxiety in the child. As the child becomes a teenager speech becomes more demanding. Stutterers are capable of clear thinking and formulation of ideas, but when these ideas have to be translated into speech they become a prey to undesirable emotions like anxiety, fear etc. At this stage stutterer’s speech becomes disorganized whenever he attempts to speak. He feels tensed and anxious which lead to interruption of his speech. With repeated frustrating experiences, stuttering behavior gets strengthened. In such situations, stutterers show certain behaviors that can be characterized as primary and secondary behaviors.

**Primary behaviors**

Primary stuttering behaviors are the overt, observable signs of speech fluency breakdown, including repeating sounds, syllables, words or phrases, silent blocks and prolongation of sounds. These differ in from the normal disfluencies found in all speakers in that stuttering disfluencies may last longer, occur more frequently, and are produced with more effort and strain. Stuttering disfluencies also vary in quality: normal disfluencies tend to be a repetition of words, phrases or parts of phrases. The primary behaviors include behavioral, psychological and sociological symptoms (Bloodstein, 1995). The behavioral symptoms of stuttering are characterized by repetitions, prolongations, blocks, unnatural hesitation and concomitant symptoms.

**Repetition**- Repetition of a sound or syllable is the earliest and most fundamental symptom of stuttering. It occurs when units of speech, such as a sound, syllable, word, or phrase is repeated and are typical in children who are beginning to stutter. For example, "to-to-to-tomorrow". These repetitions will be identified as stuttering by observers, either if they occur regularly in speech, or if there are episodes when there is more than a single repetition on any one sound. They are thus distinct from the common inaccuracies of speech. The association of tension with such repletion is diagnostic of stuttering. Phrases
and word repetitions, hesitations, interjections and corrections without tension are often present in normal speech and are not regarded as stuttering.

**Prolongations**- Prolongations are the unnatural lengthening of continuant sounds, for example,"mmmmmmmmilk". Prolongations are also common in children beginning to stutter and they tend to occur on the vowels and continuance consonants when the stutterer is unable to end the extension of the sound.

**Blocks**- Blocks are inappropriate cessation of sound and air, often associated with freezing of the movement of the tongue, lips and/or vocal folds. Blocks often develop later, and can be associated with muscle tension and effort.

**Unnatural hesitation**- These are interjections, restarted or incomplete phrases and unfinished or broken words.

**Concomitant symptoms**- This may include eye blinks, facial grimacing, jerking of the head, arm waving and so on.

Both prolongation and blocking appear to be outside the voluntary control of the stutterer and end only with the cessation of the particular interruption of speech. Some stutterers can remember first using them voluntarily as a means of release from blocking and later finding them to have become a part of the involuntary patterns (Bloodstein, 1995).

Psychological and social symptoms of stuttering include,

a) Emotional struggle when stuttering.

b) Shyness and social avoidance behavior due to fear of speaking in specific social contexts.

c) High levels of chronic anxiety especially social or phobic anxiety (Bloodstein, 1995; Craig and Tran, 2006).

**Secondary behaviors**
Secondary stuttering behaviors are unrelated to speech production and are learned behaviors which become linked to the primary behaviors. Secondary behaviors include escape behaviors, in which a stutterer attempts to terminate a moment of stuttering. Examples might be physical movements such as sudden loss of eye contact, eye-blinking, head jerks, hand tapping, interjected "starter" sounds and words, such as "um," "ah," "you know".

Secondary behaviors also refer to the use of avoidance strategies such as avoiding specific words, people or situations that the person finds difficult. Some stutterers successfully use extensive avoidance of situations and words to maintain fluency and may have little or no evidence of primary stuttering behaviors. Such covert stutterers may have high levels of anxiety, and extreme fear of even the most mild disfluency. Embarrassment and frustration are experienced by the stutterer when the disorder interferes with his ability to communicate his needs and wants (Bloodstein, 1995).

The secondary symptoms are often a response to the negative feedback that a person receives from family and friends. The symptoms are psychophysiological in nature. These symptoms include disordered breathing, abnormal larynx activity, longer intervals of jaw movements, visible tension of the face, wrinkling of forehead, sudden exhaustion of breadth, frowning, distortions of the mouth, quivering of nostrils, vocal abnormalities in the form of rapid or slow speech, changes in vocal quality, sharp shifts in pitch level, monotone etc. In addition to stuttering behavior, there is a pattern of attitude, assumptions and habitual methods of coping with stuttering that characterize the disorder in its fully developed forms (Bloodstein, 1995).

Types of Stuttering.

There are several types of stuttering, including: Developmental stuttering, Neurogenic stuttering and Psychogenic stuttering.

Developmental stuttering
This is the most common type of stuttering, which occurs in children. As their speech and language processes are developing, they may not be able to meet verbal demands. Developmental stuttering generally occurs because a child's neurological system is not ready for all of the language that they are trying to say. The stuttering should be limited to whole word or phrase repetitions. Developmental stuttering is associated with atypical prefrontal and occipital lobe asymmetries. In addition, deficits in language processing were associated with some anatomic measures in the adults who stutter. Developmental stuttering is the most common form, with an onset prior to the age of 12, and generally between the age of 2 and 5 years. Preschool children normally undergo a transient period of disfluency, and it is estimated that 50% - 80% of children with developmental stuttering will recover with or without therapy and generally before puberty. Persistent developmental stuttering (PDS) is developmental stuttering that has not undergone spontaneous or therapy related remission. Proposed etiologies include abnormal cerebral dominance with differences in regional brain activation patterns, and a possible hyperdopaminergic origin with an overactive presynaptic dopamine system in regions of the brain that modulate verbalization. A genetic component has also been observed (Ward, 2006).

Developmental stuttering is initiated by completely rational responses to original childhood disfluencies that make the child's speech different from his/her model of fluent speech. These speech "difficulties" may be associated with any number of physical, mental, or developmental problems, including cerebral palsy, mental retardation, articulatory disorders or delays, delays in expressive language development, or even with imbalances in receptive and expressive language skills. Many children who exhibit original disfluencies are highly intelligent and seem to come from very stimulating (perhaps over-stimulating) language environments. These original disfluencies, which may be temporary, should not be confused with the so-called "core dysfluencies" of later, developed stuttering behavior (Ward, 2006).
Developmental stuttering is characterized by disruptions in the fluency of verbal expressions, which is characterized by involuntary, audible or silent, repetitions or prolongations in the utterance of short speech elements, namely, sounds, syllables and words. These disruptions are usually occur frequently or are marked in character and are not readily controllable.

**Neurogenic stuttering (Acquired)**

Neurogenic stuttering is a signal problem between the brain and the nerves or muscles controlling speech. Neurogenic stuttering occurs when the brain is unable to coordinate all of the muscles involved in producing speech. Neurogenic stuttering is caused by problems in the signaling between the brain and the various muscles and nerves used in generating speech. This may occur after a stroke or damage to the brain (Ward, 2006).

Neurogenic stuttering has repetitions, prolongations, and blocks. Neurogenic stutterers lack the facial grimaces, eye blinking, and fears and anxieties of developmental stuttering. The symptoms of this stuttering can be similar to those seen in other fluency disorders. Neurogenic stuttering is seen occasionally in adults or children. These individuals are likely to have suffered some cerebral injury to the left or right hemisphere or both or have had damage of the sub cortical structures or diffused affection of the central nervous system or suffered from some metabolic disorders.

Neurogenic stuttering has no localization value. It may occur due to lesion in the frontal, parietal and temporal lobes or following damage to the low and high brainstem, the basal ganglia, and the cerebellum to the white matter tracts of the frontal lobes of either hemisphere.

**Psychogenic stuttering**

Psychogenic stuttering is believed to originate in the mind in the area of the brain that directs thought and reasoning. This type of stuttering may occur in people with mental illness or who have experienced mental stress or anguish.
However, although stuttering may cause emotional problems, it is not believed to the result of emotional problems.

**Onset of Stuttering**

It can be difficult to pinpoint the time and the nature of the onset of stuttering. Most stuttering begins in childhood without an ‘apparent’ link to either psychological or organic trauma. Onset is often gradual and interspersed with frequent periods of fluency. Most researchers agree that it may appear from 18 months to 12 years of age, but is most likely between 2-5 years. Parents are usually the first to notice when stuttering is thought to have begun in their children. Parental reports may be flawed in a number of ways, however, most notably because parents may wait months before seeking out a speech-language pathologist or other professional to confirm the presence of stuttering (Yairi and Lewis, 1984) or parents might not even notice the stuttering until sometime after onset (Onslow, 1996), particularly if onset is gradual.

Despite this, various reports in the professional literature on the age of stuttering onset tend to be consistent. Mansson (2000) found age of onset to range from 24 to 42 months with a mean age of onset of 34 months for boys and 31 months for girls. Yaruss, Lasalle and Conture (1998) found the mean age of onset to be 36 months for boys and 30 months for girls. Yairi and Ambrose (1992) reported that the greatest risk for the onset of stuttering is for children under 36 months of age, with 75% of the risk being prior to 3 ½ years of age for preschool children. Kloth, Jansen, Kraaimaat, and Bruten (1998) stated that stuttering is most likely to begin between the ages of 2 and 5 years, but can begin at any time during childhood. Onslow (1996) reported that the mean and median age of onset recalled by those who first notice the stuttering is generally below 5 years of age. His review of the literature on age of onset leads him to conclude that “stuttering begins mostly in the first few years of life”.
A feature of stuttering that differentiates it from almost all other developmental communication disorders in childhood is that onset occurs after a period of apparently normal speech development. Children do not stutter when they babble, or first start to talk, but only once they start using two or three – word utterances. The reason for this is not known, although it is commonly understood to be related in some way to the rapid development of language that is occurring at around this time. Historically, the onset of stuttering has been described as a gradual process, with severity at mild levels in the beginning but developing, if left untreated, into more severe or advanced stages as the months or years pass.

Prevalence and Incidence

Surveys conducted mainly in the United States and Europe indicates that the prevalence of stuttering in the general population is approximately 1%. Although data regarding incidence vary widely, most specialists would agree that the likelihood of an individual ever exhibiting some form of stuttering is between 3% and 4%. Of those who begin to stutter, the majority stop by adulthood. The estimated percentages of spontaneous recovery in stuttering again vary widely because of differing definitions of stuttering and normal non-fluency, age groups studied and data collection techniques. Several studies have estimated spontaneous recovery to be as high as 80%. Peters and Guitar (1991) discuss the variables and suggest in their review that the probable incidence of stuttering is about 5% and the prevalence is 1%. The difference in these figures may reflect the spontaneous recovery findings. Craig, Hancock and Tran et.al (2002) found the population prevalence of stuttering over the entire life span (from 2 year to older age) to be 0.72%, with atleast a 50% higher prevalence in males. This relatively low population prevalence is to be expected, because although 2% to 4% of people develop a stutter in childhood, many recover naturally in early adulthood (Bloodstein, 1995). A higher prevalence rate (of upto 1.4%) was observed in children and adolescents (2-19 years of age), with males in this age group having a fourfold higher prevalence.
Outstanding competitive pressures characterize cultures with higher prevalence of stuttering and probability is related to environmental pressures for achievement and conformity. A high familial incidence is indicated by the presence of stuttering among the relatives of approximately 50% of individuals who stutter.

**Sex Ratio**

Gender is one of the strongest predisposing factors for stuttering in that the disorder affects many more males than females. Stuttering is more prevalent among boys than girls, with the ratio of boys to girls among American School children being approximately 3 to 4. Yairi (1983) demonstrated that in 2-3 year olds the ratio of males to females is 1:1. Bloodstein (1987) puts this ratio at 3:1 in 6-7 year olds and 5:1 in 12-13 year olds. Several developmental studies have concluded that the remission of stuttering is much more common in girls than in boys, there is consequently an increasing preponderance of stuttering in males with age. (Andrews and Harris, 1964; Neaves, 1970; Quinn and Andrews; 1977). According to Craig, Hancock and Tran (2002) in older children and adults the male-to- female ratio is large, about 4 to 1 or greater.

Although in the past it was suspected that the age related substantial decrease in the proportion of females who stutter may be due to processes of natural recovery, data obtained at the University of Illinois Stuttering Research Program on early childhood stuttering have provided strong evidence to this effect.

On the basis of systematic follow-ups of many children over several years, it was found that boys have greater risk for developing chronic stuttering. Conversely, girls who begin stuttering have a greater chance than boys to experience natural recovery (without treatment). Specifically, among children who recovered there were 2.3 boys to each girl; in children who became chronic stutterers there were 3.75 boys to each girl. The clinical implications for early risk assessment are obvious.
Underlying the gender ratio in stuttering are genetic factors (likely affecting brain structures associated with speech-language processes). For example, in families of children who stutter, more fathers stutter than mothers and more brothers’ stutter than sisters. Most recently, Cox et.al (2005) carried this step further reporting gender differences in chromosomal signals for stuttering. An extremely interesting intersection of findings were reported and they were a) gender in stuttering is genetically influenced, b) gender is a factor in natural recovery and chronic stuttering and c) natural recovery and chronic stuttering are genetically influenced.

Development of Stuttering

Bloodstein (1970) in discussing his ‘Continuity Hypothesis’ of stuttering saw the clinical disorder as a ‘more extreme degree of certain forms of normal dysfluency’. He suggested four ‘phases’ in the developing problem.

Phase 1- Preschool years (the ages of 2 and 6)

The characteristics of this phase may persist until age seven or later. In this phase, the dysfluency is usually episodic. Fluent periods are very common, and even as these become shorter and less frequent, dysfluency shows much wider fluctuation than it will, if it continues in later years. Disruption tends to occur on the initial word of the sentence to a far greater degree than in more advanced phases and there is a marked tendency for it to occur on function words, especially prepositions, conjunctions and pronouns. Although, the most characteristic symptom of early dysfluency is repetition, especially of syllables and monosyllabic words, hard contacts or blocks are also quite common. Where they occur on plosive or ‘stop’ sounds they may produce hard repetitions of the initial sound of the word or complete ‘blocks’, while on continuant sounds a prolongation results. Associated symptoms of facial grimace, body movements, gasping and speaking on ingoing breath may also be present at this early stage. These disruptions occur most frequently when the child is under some sort of ‘communicative pressure’ – when he/she is excited or telling a long story. Yet although there may be brief emotional reactions to
severe difficulty, these are usually transitory and there is “essentially no fear or embarrassment”. The child does not react to himself as a stutterer and ‘speaks freely in all situations’.

Phase 2- Children of elementary school age.

In phase two, firstly ‘the disorder is essentially chronic’. While there may be fluctuations in occurrence and severity, ‘it may no longer be said to come in discrete episodes’. Secondly, there is a marked increase in stuttering when the child is hurried or excited. The third point concerns the loci of stuttering. Here the dysfluency occurs primarily on content words rather than function words and not so frequently at the beginnings of sentences as formerly (though this tendency is still present in much advanced stuttering). Lastly, although the child still speaks freely in all situations, he/she now reacts to himself as a stutterer. Typically, there is little concern about stuttering, however, except in severe cases or moments of unusual difficulty. Here the child has developed a self-concept as a person who stutters. Bloodstein does not place an approximate age to the end of phase two as, for some time, it may last into adulthood.

Phase 3- Age from about 8 years to young adulthood.

This phase shows an increase in difficulty which becomes more specific to certain situations. Similarly, particular sounds are perceived as ‘difficult’ and anticipation of them has begun to develop. This brings with it the growth of devices for postponing the attempt on the word by, for example, filled pauses or a repetition of the word or phrase preceding it. ‘Release’ devices, such as the sharp exhalation of breath to terminate a block or head jerking, are more evident. Despite this, ‘there are few deep feelings of fear or embarrassment and essentially no tendency to avoid speaking’. Bloodstein states: ‘Phase three represents fully developed stuttering without the avoidance of speech’. He sees the outstanding characteristic of this phase as ‘the contrast between the stutterer’s elaborately developed symptomology, with its devices for postponement, starting and release and the attitude of comfortable equanimity
with which he appears to accept practically every opportunity to engage in speech’.

**Phase 4- Most advanced form**

In phase 4, the characteristics are ‘more typical in older adolescence and adulthood’. All of its features may be found in a child as young as ten years of age and some of them even earlier. Here, the primary characteristic of stutterers is that there are vivid anticipations of stuttering. There will be special difficulty in response to various sounds, words, situations and listeners and avoid certain speaking situations. Word substitutions and circumlocution are frequent and there are evidences of fear and embarrassment.

**Psychological Aspects of Stuttering in Adults**

In adults, the awareness of stuttering may develop into reactions of frustration and the beginnings of fear and avoidance. Some of the overt behaviors themselves indicate anticipation of and attempts to deal with a ‘dangerous’ word: the delaying tactics, the release mechanisms. Loss of eye-contact as trouble looms is a common reaction of many stutterers and this can generalize into an almost total inability to look at the listener when speaking. Van Riper (1971) sees the ‘intense scanning of a prospective utterance’ as one of the most prominent features of the confirmed stutterer, an exaggeration of the in-process monitoring. Some are so skilled in this that they seldom stutter, managing to substitute one word after another for those on which they anticipate dysfluency. Circumlocution is a common method of word avoidance, sometimes producing a fluent utterance of great length in place of a brief statement, sometime leading to confusion and even more stuttering. Other device range from pretending to forget a particular word to remaining silent when an intended statement contains a potential stutterer.

The decision not to speak can have far-reaching effects when it is made continually in the face of speaking situations as a whole. Always shopping in a
supermarket, instead of asking for things over the counter, using ticket machines instead of asking for a destination, may in themselves be simply minor inconveniences. But deep frustration and shame can result from habitually remaining silent in conversations where the person feels he really has something to say, or persistently failing to make those initial verbal contacts which are a part of establishing human relationships. Some stutterers avoid going to places where their speech difficulty might be exposed to strangers and even choose jobs entailing the minimum of speech. Although it should be emphasized that many people, even with severe speech problems, do not become isolated and withdrawn through communication fears, some undoubtedly feel that stuttering has restricted their lives greatly, with respect to work and social life, and to a large extent hindered the development of their personality as a whole.

There are many factors governing the stutterer’s ability to tolerate speech failure. Some of these must lie within the person concerned and relate to a more general resilience and capacity to bear frustration. His concept of himself as a whole, partly dependent on his experience of the reaction of others, will make the fact of stuttering the one area of dissatisfaction with himself only or only part of a more total sense of inadequacy. Some stutterers are acutely aware of each moment of dysfluency, while others remain undisturbed by knowledge of even quite bizarre behavior. For these and many other reasons, the stutterer’s view of the severity of his problem may not be directly related to the severity of overt symptoms.

People including many speech therapists, are often puzzled by the apparent ease with which some quite severe stutterers, never free from their difficulty for any length of time, seem to manage to live with their problem, while others, who have little observable trouble, express far more concern and experience much more intense situation fears. There is a tendency to assume that the former are particularly ‘well-adjusted’ people, while the latter must have some basic psychological vulnerability, be essentially ‘over-sensitive’
and lacking in courage. But while both assumptions may be quite true in some cases, it should be realized that a speaker who stutters consistently and inevitably is experiencing something quite different from another who is fluent a great deal of the time, but who knows that he may suddenly caught in a moment of stuttering which will shock his listeners as well as himself. It must in some ways be easier to accept inevitable dysfluency, to which listeners also become accustomed, than the constant threat of possible disruption. More consistent stutterers are also relieved of any conflict between being open about their difficulty and trying to hide it.

Joseph Sheehan (1970) expresses the disorder in terms of an iceberg, with the statutory nine-tenths beneath the surface, consisting of ‘concealment behavior, false roles, tricks, fear, avoidance, guilt, shame and the far smaller proportion above the ‘stuttering behavior’ itself. There is wide variation amongst stutterers in the proportion of ‘hidden’ as against ‘open’ behavior. They also differ greatly in their ability to observe and express the covert aspects of the problem, just as some are more able than others to appreciate the nature of the overt symptoms. In fact, there are probably more differences to be found between stutterers themselves than there are between the two broad groups of stutterers and fluent speakers.

**Effect of Stuttering in Adults**

Stuttering in adults is a real pain when they can’t find the right words that they want to use to express to chat; this can be very embarrassing for the person concerned and tends to lead to some discomfort. Many have found that by switching the words that make them stutter it will help them speak more fluently. The stuttering can sometimes disappear for many months and resurface again. Unfortunately this does not happen to everyone who stutters. Some face this problem throughout the year and are very desperate for something that can help them get over this problem. Many people normally suffer low self- esteem and tend to be anti-social. Stutterers often need
understanding friends to cheer them up, find it very bad to take no for answers, feel just miserable for no good reason; suddenly feel shy when they want to talk to an attractive stranger. Their feelings are rather easily hurt and troubled with feelings of inferiority.

Those who stutter into later stages in life have lower odds of recovering from the stuttering and greater odds of facing more negative social consequences. Although there are many severity levels of stuttering behaviors, determined by the presence of various core and secondary behaviors, most of the adolescents and adults who stutter experience social consequences from stuttering. Stuttering may impact an individual’s employment opportunities, self-image or self-esteem, perception by others, relationship with peers and intimate relationships. (Linn, 1998). Research shows that individuals who stutter are viewed as less desirable romantic partners and friends and some people feel that they are forced to compensate for a friend or partner that has challenges with stuttering (Dickson, 1994). Employment opportunities can be limited for a person who stutters. The stuttering is usually noticeable during the job interview process, which may affect the way that the employer perceives the applicant. A study by Hurst (1983) showed that 85% of employers agreed that stuttering decreases a person’s employability and opportunities for promotion. The results of a survey conducted by Opp (1997) showed high rates of unemployment and discrimination in attaining employment because of stuttering. There is a common misconception that an individual who stutters is less intelligent than a typical fluent speaker which often results in discrimination and limited opportunities in life. Additionally it is also common for an individual who stutters to feel negative feelings and attitudes about his or her communication abilities and avoidance behaviors and limited interaction with others are frequent. (Guitar, 2006).

In social situations, there is an increase in tension and anxiety in stutterers and they may develop adjustment problems. Presence of anxiety will increase the severity and perhaps also the frequency of their stuttering
behavior, it will heighten muscle activity and this will tend to disrupt the
programming and execution of rapid sequential movements. (Brutten and Shoe
maker, 1967). Anxiety has been assigned various roles in theories of stuttering
and anxiety is viewed as the main cause, mediating variable that is
precipitating, perpetuating or aggravating factors. (Gregory, 1991). A positive
relation between the severity of stuttering and level of anxiety has been
reported. (Caruso et al., 1994). They experience limited assertive experiences
within social situations, often regarded to be reflected in the consequences of
stuttering.

The experience of stuttering for the person who stutters may include
negative cognitive, affective and behavioral reactions both from the speaker
who stutter and the environment. This experience may also involve significant
limitations in the individual’s ability to participate in daily activities and a
negative effect on the persons overall quality of life (Yaruss and Quesal, 2004).
In terms of temperamental factors, people who stutter tend to be more
temperamentally sensitive, emotionally reactive, fearful, cautious, reserved,
behaviorally inhibited, socially withdrawn, appear to be anxious and
introverted. They are slower to adapt to new environmental circumstances,
situations and people, less distractible or more vigilant, perhaps hyper vigilant,
less predictable in physiologic functions (i.e., in biologic functions like
elimination patterns, hunger, sleep), less able to maintain attention and more
inattentive or distractible. (Treoan and Dempster, 2006).

**Stuttering and Personality Traits**

People who stutter do not uniformly share any particular personality
trait, and stuttering does not appear to be symptom of an emotional disorder of
neurosis (Bloodstein, 1987). Certain personality traits that have been found to
be more common among people who stutter are shame, self- conscious and
locus of external control orientation (Silverman, 1996). Ginsberg (2000) has
pointed out that shame and self –consciousness is the significant predictors of
behavioral dimensions of stuttering. The person who says to himself, ‘I am a stutterer’ formulates his self-concept in a way that implies compulsive deviancy. (Van Riper, 1982).

Growing up children with stuttering place themselves under pressure to be ‘perfect’, there is excessive self-blame, denial, passivity, helplessness, guilt, shame and anger, anxiety, withdrawal dependency, poor ego strength due to which there is avoidance. (Riley and Riley, 1982). Peters and Guitar (1991) explain that in many cases, stuttering forms a primary part of the adult’s identity. It may be a part of themselves that they hate, a part on which they place many other troubles, a part they want to eradicate.

One of the personality trait shared by stutterer is unwillingness to express anger openly (Barbara, 1982). The more anger they feel, they are less willing to express it openly. Hence they are likely to stutter more severely. Another personality trait is depression. Stutterers are depressed because they experience the loss of ability to speak normally. According to Johnson (1946), the first stage of the loss is denial, the second is the anger, the third is bargaining, the fourth is depression and the fifth is acceptance. Another reason why stutterers become depressed is because they believe that the failure to overcome stuttering is their fault. Another personality trait is guilt about stuttering. (Van Riper, 1982). A person who stutters believe that they are somehow responsible for beginning to stutter because they did not do what was necessary to talk correctly. Anxiety is another trait (Craig, 1990) which results from anticipating stuttering in a speaking situation and desiring to avoid it.

**Diagnosis of Stuttering**

Identifying stuttering in an individual's speech would seem like an easy task. Dysfluencies often "stand out" and disrupt a person's communication. Listeners can usually detect when a person is stuttering. At the same time, stuttering can affect more than just a person's observable speech. Some
characteristics of stuttered speech are not as easy for listeners to detect. As a result, diagnosing stuttering requires the skills of a certified speech-language pathologist (SLP). During an evaluation, an SLP will note the number and types of speech dysfluencies a person produces in various situations. The SLP will also assess the ways in which the person reacts to and copes with dysfluencies. The SLP may also gather information about factors such as teasing that may make the problem worse. A variety of other assessments (e.g., speech rate, language skills) may be completed as well, depending upon the person's age and history. Information about the person is then analyzed to determine whether a fluency disorder exists. If so, the extent to which it affects the ability to perform and participate in daily activities is determined.

For young children, it is important to predict whether the stuttering is likely to continue. An evaluation consists of a series of tests, observations, and interviews designed to estimate the child's risk for continuing to stutter. Although there is some disagreement among SLPs about which risk factors are most important to consider, factors that are noted by many specialists include the following: a family history of stuttering, stuttering that has continued for six months or longer, presence of other speech or language disorders and strong fears or concerns about stuttering on the part of the child or the family.

No single factor can be used to predict whether a child will continue to stutter. The combination of these factors can help SLPs determine whether treatment is indicated. For older children and adults, the question of whether stuttering is likely to continue is somewhat less important, because the stuttering has continued at least long enough for it to become a problem in the person's daily life. For these individuals, an evaluation consists of tests, observations, and interviews that are designed to assess the overall severity of the disorder. In addition, the impact the disorder has on the person's ability to communicate and participate appropriately in daily activities is evaluated. Information from the evaluation is then used to develop a specific treatment
program, one that is designed to help the individual speak more fluently, communicate more effectively and to participate more fully in life activities.

**Differential Diagnosis**

Normal developmental dysfluency and early signs of stuttering are often difficult to differentiate. Thus, diagnosis of a stuttering problem is made tentatively. It is based upon both direct observation of the child and information from parents about the child’s speech in different situations and at different times.

**Normal dysfluency** - Between the ages of 18 months and 7 years, many children pass through stages of speech dysfluency associated with their attempts to learn how to talk. Children with normal dysfluency between 18 months and 3 years will exhibit repetitions of sounds, syllables and words especially at the beginning of sentences. These occur usually about once in every 10 sentences. After 3 years of age, children with normal dysfluency are less likely to repeat sounds or syllables but will instead repeat whole words (I-I-I can’t) and phrases (I want- I want- I want to go). They will also commonly use fillers such as “uh” or “um” and sometimes switch topics in the middle of a sentence, revising and leaving sentences unfinished. Normal children may be dysfluent at any time but are likely to increase their dysfluency when they are tired, excited, upset or being rushed to speak. They also may be more dysfluent when they ask questions or when someone asks them questions. Their dysfluency may increase in frequency for several days or weeks and then be hardly noticeable for weeks or months, only to return again. Typically, children with normal dysfluency appear to be unaware of them, showing no signs of surprise or frustration. Parents’ reaction to normal dysfluency shows a wider range of reactions than their children do. Most parents will notice their child’s dysfluency or will treat them as normal. Some parents, however, may be extremely sensitive to speech development and will become unnecessarily concerned about normal dysfluency. These overly concerned parents often
benefit from referral to a speech clinician for an evaluation and continued reassurance.

**Mild stuttering**- Mild stuttering may begin at any time between the ages of 18 months and 7 years, but most frequently begins between 3 and 5 years, when language development is particularly rapid. Some children’s stuttering first appears under conditions of normal stress, such as when a new sibling is born or when the family moves to a new home. Children who stutter mildly may show the same sound, syllable and word repetitions as children with normal dysfluency but may have a higher frequency of repetitions overall as well as more repetitions each time. For example, instead of one or two repetitions of a syllable, they may repeat it 4 or 5 times, as in ‘ca- ca- ca- can I have that?’. They may also occasionally prolong sounds, as in “mmmmmmmmummy, its mmmmmmy ball”. In addition to these speech behaviors, children with mild stuttering may show signs of reacting to their dysfluency. For example, they may blink or close their eyes, look to the side, or tense their mouths when they stutter. Another sign of mild stuttering is the increasing persistence of dysfluency. Normal dysfluency will appear for a few days and then disappear. On the other hand, mild stuttering tends to appear more regularly. It may occur only in specific situations, but it is more likely to occur in these situations, day after day. A third sign associated with mild stuttering is that the child may not be deeply concerned about the problem, but may temporarily embarrassed or frustrated by it. Children at this stage of the disorder may even ask their parents why they have trouble talking. Parent’s response to mild stuttering will vary. Most will be at least mildly concerned about it, and wonder what they should do and whether they have caused the problem. A few will truly not notice it; still others may be quite concerned, but deny their concern at first.

**Severe stuttering**- Children with severe stuttering usually show signs of physical struggle, increased physical tension, and attempts to hide their stuttering and avoid speaking. Although severe stuttering is more common in older children, it can begin at any time between ages 1 1/2 and 7 years. In some
cases, it appears after children have been stuttering mildly for months or years. In other cases, severe stuttering may appear suddenly, without a period of mild stuttering preceding it. Severe stuttering is characterized by speech dysfluencies in practically every phrase or sentence; often moments of stuttering are one second or longer in duration. Prolongations of sounds and silent blockages of speech are common. The severely stuttering child may like the mild stutterer, have behaviors associated with stuttering: eye blinks, eye closing, looking away or physical tension around the mouth and other parts of the face. Moreover, some of the struggle and tension may be heard in a rising pitch of the voice during repetitions and prolongations. The child with severe stuttering may also use extra sounds like “um”, “uh”, or “well” to begin a word on which he expects to stutter. Severe stuttering is more likely to persist; especially in children who have been stuttering for 18 months or longer, although even some of these children will recover spontaneously. The frustration and embarrassment associated with real difficulty in talking may create a fear of speaking. Children with severe stuttering often appear anxious or guarded in situations in which they expect to be asked to talk. While the child’s stuttering will probably occur every day, it will probably be more apparent on some days than others. Parents of children who stutter severely inevitably have some degree of concern about whether their child will always stutter and about how they can best help. Many parents also believe, mistakenly, that they have done something to cause the stuttering. In almost all cases, parents have not done anything to cause the stuttering. They have treated the child who stutters just like they treat their other children, yet they may still feel responsible for the problem. They will benefit from reassurance that their child’s stuttering is a result of many causes and not simply the effect of something they did or didn’t do.

**Prognosis of Stuttering**

In most children, the problem of stuttering last for a short period and improves in a few months. In less than 1% of children, the problem may persist
and progress from simple repetition of consonants to repetition of words and phrases. Prognosis for recovery is good in younger children (preschool children). Some researches have shown that about 65% of preschoolers, who stutter, improve without treatment in the first 2 years of stuttering and about 74% recover by their early teens. Prognosis is better for girls as compared with boys. Recovery without treatment occurs in only 18% of the children, who stutter after 5 years.

Currently, there is no cure for stuttering. Some medications have been tried for stuttering, but none of them have been found to be effective. Different treatment approaches for stuttering include controlled fluency (the person is taught to speak slowly and learn to notice when stuttering starts), certain electronic devices, cognitive behavioral therapy and intensive program. With timely and appropriate treatment, children can be taught to control their stuttering. Like any other disorder, response to treatment and prognosis for every child is different in stuttering. Some factors that affect the prognosis include severity of the disorder, cause of the disorder, age at intervention, response to treatment, overall health and external support system (parents, school, etc). According to experts, parental involvement and support is a major part in the treatment of any child with stuttering.

Prognosis is shown to improve with early intervention and it can help the child to achieve normal fluency. Young children with appropriate treatment may be left with little evidence of stuttering. If stuttering becomes established and the child has developed physical symptoms associated with speech disruptions such as rapid eye blinks or tremors of the lips, the prognosis is more guarded.

**Treatment**

Treatment of stuttering may be effective if it is initiated around the time of the onset of the problem. If stuttering is not treated by adolescence, the
individual is at high risk for maintaining stuttering throughout adulthood (Van Riper, 1973). Although there is currently no cure for stuttering, there are a variety of treatments available. The nature of the treatment will differ, based upon a person’s age, communication goals, and other factors.

For very young children, early treatment may prevent developmental stuttering from becoming a lifelong problem. Certain strategies can help children learn to improve their speech fluency while developing positive attitudes toward communication. Health professionals generally recommend that a child be evaluated if he or she has stuttered for three to six months, exhibits struggle behaviors associated with stuttering, or has a family history of stuttering or related communication disorders. Some researchers recommend that a child be evaluated every three months to determine if the stuttering is increasing or decreasing. Treatment often involves teaching parents about ways to support their child’s production of fluent speech.

**Stuttering Therapy**

Stuttering therapy is any of the various treatment methods that attempt to reduce stuttering to some degree in an individual. Stuttering can be a challenge to treat because there is a lack of evidence-based consensus about therapy. Some believe that there is no cure for the condition, and experts have argued that the preferred treatment outcome is one that involves satisfaction on the part of the stutterer, with both his communicative performances and the therapy process. While there is disagreement about acceptable treatment outcomes from stuttering therapy, a wide range of methods have been developed to treat stuttering, and these have been successful to varying degrees.

**Goals of Stuttering Therapy**

In general, stuttering therapy aims to reduce stuttering to some degree in an individual. Some believe the only acceptable therapy outcome which is a
significant reduction in or total elimination of stuttering, others believe that speech which contains some stuttering, as long as the stuttering has become less tense and effortful, is just as acceptable and yet others believe that the most important therapy outcome is the increased confidence a person has in his or her ability to talk, whether or not stuttering continues to be present. There are many different methods available for treating stuttering.

In 1997, experts argued that in the case of a stutterer seeking professional treatment from a clinician, the “preferred treatment outcome” is that the stutterer will demonstrate feelings, behaviors and thinking that lead to improved communicative performance and satisfaction with the therapy process. They argued that the criteria for a treatment to be viewed as successful includes the stutterer being satisfied with his therapy program and its outcome, feeling that he has an increased ability to communicate effectively, feeling more comfortable as a speaker and believing that he is better able to reach his social, educational and vocational goals.

**Approaches to Stuttering Therapy**

There are many different approaches to stuttering therapy. While some believe that there is no cure for the condition, stuttering can be reduced and even eliminated with appropriate timely intervention and various therapy methods have reduced stuttering in individuals to some degree. In any case, for all persons who stutter, the successfulness of speech therapy depends on the combination of education, training and individualized treatment provided.

For a child that stutters, the focus of treatment is to prevent the worsening of the condition, and families play an important role in the process. Successful elimination of mild stuttering is likely to occur when treatment is initiated before four years of age. For those who have more advanced form of stuttering and secondary behaviors, therapy is generally a variation or combination of two approaches: a fluency shaping technique that replaces
stuttering with controlled fluency, and stuttering modification therapy, which focuses on reducing the severity of stuttering.

**Therapy for children**

Treatment of mild stuttering in children younger than six years of age focuses on the prevention or elimination of stuttering behaviors. Families play an important role in the management of stuttering in children: therapy is usually characterized by parental involvement and direct treatment, and providing an environment that encourages slow speech, affording the child time to talk, and modeling slowed and relaxed speech can help reduce stuttering. Several organizations organize summer programs for children, including summer camps, to help the stuttering treatment. These programs offer a range of services from providing a fun outdoor experience in a nurturing and supportive environment that is free from ridicule, to providing “intensive work on communication skills.

**Fluency shaping** - Fluency shaping therapy focuses on changing all the speech of the person who stutters, and not just the portions of speech in which he or she stutters. This type of therapy involves teaching the stutterer to use a speaking style that requires careful and prominent self-monitoring; examples of such therapy include one in which the stutterer slows his speech down and smoothes out all his words, and one in which the physical mechanisms used in the speech production are retrained. This type of approach can reduce stuttering, although in children its effectiveness decreases if stuttering persists after eight years of age; Woody Stark weather (1998), a Professor of Communication Sciences, asserted that in his experience this type of therapy improves speech only when used with other techniques. Certain devices, known as fluency-shaping mechanisms, use this approach in an attempt to reduce stuttering. For example, delayed auditory feedback devices encourage the slowing down of speech by replaying the stutterer's words. The stutterer is then forced to slow her rate of speech to prevent distortions in the speech that is
heard through the device. The effectiveness of such devices varies with stuttering severity.

**Stuttering modification** - Stuttering modification therapy, also known as traditional stuttering therapy, was developed by Charles Van Riper between 1936 and 1958. It focuses on reducing the severity of stuttering by changing only the portions of speech in which a person stutters, to make them smoother, shorter, less tense and hard, and less penalizing. This approach attempts to reduce the severity and fear of stuttering, and strives to teach stutterers to stutter with control, and not to make the stutterer fluent. Therapy using this approach tends to recognize the fear and avoidance of stuttering, and consequently spend a great deal of time helping stutterers through those emotions. This approach generally does not eliminate stuttering events, but it helps to minimize the impact and occurrence of stuttering. Since its creation, many clinicians have improvised on Charles Van Riper's basic stages and strategies. The stages of Van Riper's therapy can be summarized up in the acronym MIDVAS:

1. **Motivation** - The person who stutters needs to assess his motivation for seeking therapy, and the speech-language pathologist (SLP) needs to help the person build and maintain the motivation necessary for successfully changing speech behaviors and attitudes.

2. **Identification** - In this stage the client and clinician identify all of the behaviors, feelings, and attitudes that go along with the person's stuttering.

3. **Desensitization** - Van Riper designed this stage to help drain away the negative emotions, the fears, and the anxieties associated with the act of stuttering. The most common strategy used in this phase is called voluntary stuttering, in which the person stutters on purpose.

4. **Variation** - The individual is now able to change how he stutters and his reactions to the stuttering; he learns how to stutter differently in this phase. For
example, if the person usually prolongs the initial "s" in "sister", the SLP may have him repeat the sound or stutter on a different sound in the word.

5. **Approximation** - The individual now learns specific strategies to smooth out and minimize the moments of stuttering. The three most common strategies for altering the stuttering are cancellation, in which the person stutters all the way through a word, stops immediately, and then repeats the word stuttering a different way; pull-out, in which the person gains control over a moment of stuttering while it is happening and smooths it out; and preparatory set, in which the person prepares for a moment of stuttering before it happens, starts it gently and glides through it smoothly.

6. **Stabilization** - In the stabilization phase, the individual becomes his own clinician by using the new stuttering controls in more and more situations of daily life. The individual also continues to stutter voluntarily and to seek out communication situations which he previously avoided.

**Contemporary devices** - Contemporary devices used to reduce stuttering alters the frequency of the speaker’s voice to mimic the “choral effect”, a phenomenon in which person's stutter decreases or ceases completely when she is speaking with a group of others, or slows the rate of speech through delayed auditory feedback. Studies on the long-term outcome of these devices have not been published.

**Diaphragmatic breathing** - Diaphragmatic breathing is a breathing that is done by contracting the diaphragm, a muscle located horizontally between the chest cavity and stomach cavity. Air enters the lungs and the belly expands during this type of breathing. This deep breathing is marked by expansion of the abdomen rather than the chest when breathing. It is considered by some to be a healthier and fuller way to ingest oxygen and this therapy is found to be effective in stuttering treatment.

**Self-therapy** - Some stutterers are only able to seek self-therapy because adequate clinical treatment is not available to them, and some experts in the
field believe that stuttering therapy is largely a do-it-yourself project anyway. As a form of self-therapy, Malcolm Fraser, founder of the Stuttering Foundation of America and life member of the American Speech-Language-Hearing Association recommends the following guidelines for stutterers needing immediate relief, even temporarily, in his book Self-Therapy for the Stutterer:

1. Make a habit of always talking slowly and deliberately whether you stutter or not.
2. When you start to talk, do it easily, gently and smoothly without forcing and prolonging the first sounds of words you fear.
3. Stutter openly and do not try to hide the fact that you are a stutterer.
4. Identify and eliminate any unusual gestures, facial contortions, or body movements which you may possibly exhibit when stuttering or trying to avoid difficulty.
5. Do your best to stop all avoidance, postponement or substitution habits.
6. Maintain eye contact with the person to whom you talk.
7. Analyze and identify what your speech muscles are doing improperly when you stutter.
8. Take advantage of block correction procedures designed to modify or eliminate your abnormal speech muscle stuttering behavior.
9. Always keep moving forward as you speak (keep moving your voice from one word or sound to the next, without repeating or back-tracking).
10. Try to talk with inflection and melody in a firm voice.
11. Pay attention to the fluent speech you have.

Support groups- As of 2002, stuttering support groups had gained prominence and visibility and were rapidly becoming an important part of the recovery process for stutterers, even though the vast majority of adults who stutter did not participate in support groups (or treatment). A growing number of speech–language pathologists were also encouraging their clients to
participate in support groups, even though little was known about the individuals that joined stuttering support groups and the benefits they derived from their participation. Studies involving members of support groups of the National Stuttering Association have found that 57.1% of survey respondents said that the support group had affected their self-image "very positively", with no respondents indicating that it had a negative impact.

**Self-help organizations**- Several organizations have been set up in various countries that provide literature and a support network for stutterers seeking self-therapy. These include the National Stuttering Association in the United States, which provides publications, a newsletter, local chapters and workshops; Speakeasy New Zealand Association, a self-help organization that has branches throughout New Zealand; the British Stammering Association in the United Kingdom; the Indian Stammering Association, Israel Stuttering Association (AMBI) and the China Stuttering Association, a self-help organization in China.

**Pharmacologic therapy**- Several pharmacologic, i.e. drug-based, methods to control or alleviate stuttering events have been studied, but each has either proved ineffective or have had adverse effects. In addition, no large-scale trials on pharmacologic therapy have been published, and there are no trials including children. A comprehensive review of pharmacologic interventions for stuttering showed that no agent leads to valid improvement in stuttering or in secondary social and emotional consequences.

**Post-therapy recurrence of stuttering**- Every clinician who has worked extensively with adult stutterers has encountered the tendency for the stutterer to begin to stutter again after treatment has helped the person talk with little or no stuttering; only preschool children seem immune from this tendency. It has been suggested that this return to stuttering be avoided by dealing with a stutterer's fears during therapy. For example, stutterers whose speech had been improved by fluency shaping techniques may stutter again if he becomes tired.
of the effort involved in trying to maintain a nonspontaneous, unnatural form of speaking; the stutter itself was never dealt with in the first place. Experts have argued that fluency shaping is stuttering in a new form, and Stark weather (1998) asserts that the return of stuttering is a fault of the treatment. Additionally, there is a tendency for stuttering behaviors to return after stuttering modification therapy. While this type of therapy requires less effort that in fluency shaping, some concentration nonetheless needs to be applied. Moreover, a client that feels as if he has been cured of stuttering and stops doing the various exercises associated with the treatment may develop "microstutters", which lead to the use of avoidance behaviors that increase the fear of stuttering further, which in turn leads to more severe stuttering. The main issue is that the fear of stuttering was not removed by therapy in the first place. If the microstutters were simply accepted as a reality, or if voluntary stuttering were used to prevent the development of new fears, the microstutters may occur but a relapse into severe stuttering may not. In another form of recurrence, a stutterer who has undergone therapy has an emotional reaction to a situation as a result of previous experiences that causes him to stutter. This is often related to "struggles and forcing learned when the stutterer was very young". The solution to this is to resurrect and focus on as much "unfinished business" as can be found during therapy, which may, for example, include dealing with a fear of reading aloud in front of a group that is related to avoidance and humiliation experienced in similar childhood situations. Clinicians trained in experiential techniques know how to find such "business" and "finish" it.

**Anti-stuttering medications**- The effectiveness of pharmacological agents, such as anti-convulsants, anti-depressants, antipsychotic and anti-hypertensive medications and dopamine in the treatment of stuttering has been evaluated in studies involving both adults and children. A comprehensive review of pharmacological treatments of stuttering in 2006 concluded that few of the drug trials were methodologically sound. Of those that were, only one,
not unflawed study, showed a reduction in the frequency stuttering to less than 5% of words spoken. In addition, potentially serious side effects of pharmacological treatments were noted.

**Statement of the Problem**

The present study is entitled as “Correlates of stuttering: An Analytical study”.

**Definition of Key terms**

**Correlates**

“Correlates is a phenomenon that accompanies another phenomenon, is usually parallel to it, and is related in some way to it. If two or more thing correlate or are correlated, they are connected in a way that is not caused by chance” (Webster, 2004).

**Stuttering**

“Disruption in the forward flow of speech which is characterized by involuntary, audible or silent, repletion or prolongation in the utterance of short speech elements, namely sounds, syllables and words of one syllable. These disruptions usually occur frequently or are marked in character and are not readily controllable” (Wingate, 1964).

**Adjustment**

According to Sarason and Sarason (1993), “adjustment implies mastery over one’s environment and being at peace with oneself”. It refers to the ability to satisfy the demands of our surroundings as well as our need, so, it is a healthy balance between what we want and what society demands.
Maladjustment

According to Rogers (1959) psychological maladjustment exists when the organism denies awareness of significant sensory and visceral experiences, which consequently are not symbolized and organized into the gestalt of the self structure. When this situation exists there is a basic or potential psychological tension.

Aggression

According to Berkowitz (1975) aggression is “the intentional injury of another”.

Personality

According to Allport (1961) personality is “the dynamic organization within the individual of those psychophysical systems that determine his characteristic behavior and thought”.

Type A personality

A person with type A personality is considered to ambitious, rigidly organized, highly status conscious, can be sensitive, truthful, impatient, always try to help others, take on more than they can handle, want other people to get to the point, proactive, and obsessed with time management. They are often high-achieving "workaholics” who multi-task, push themselves with deadlines, and hate both delays and ambivalence. Friedman (1996) suggests that Type A behavior is expressed in three major symptoms: free-floating hostility, which can be triggered by even minor incidents; time urgency and impatience, which causes irritation and exasperation usually described as being "short-fused"; and a competitive drive, which causes stress and an achievement-driven mentality. The first of these symptoms is believed to be covert and therefore less observable, while the other two are more overt.
Type B personality

People with Type B personality generally live at a lower stress level and typically work steadily, enjoying achievement but not becoming stressed when they are not achieved. When faced with competition, they do not mind losing and either enjoy the game or back down. They may be creative and enjoy exploring ideas and concepts. They are often reflective, thinking about the outer and inner worlds.

Adults

“Adults are those who have attained maturity or legal age or biologically a fully grown, mature organism” (Henig, 2010).

Objectives

1) To find out the personality pattern of adult stutterers based on Type A/ Type B personality.
2) To find out the correlation coefficients among the thirteen variables obtained in Type A stutterers.
3) To find out the correlation coefficients among the thirteen variables obtained in Type B stutterers.
4) To find out the correlation coefficients among the thirteen variables obtained in adult stutterers.
5) To find out the significant difference among adult stutterers and adult non stutterers in the thirteen variables selected for the study.
6) To find out the significant difference among the adult stutterers classified according to education (upto HSS, under graduation, post graduation and above), monthly income (upto 20000, 20000-30000, 30000 and above), birth order (first born, middle born, last born) and marital status (married, unmarried) in the variables under study.
Hypotheses

Hypothesis- 1

“The correlation coefficients among the thirteen variables obtained in Type A stutterers will be significant”.

Hypothesis- 2

“The correlation coefficients among the thirteen variables obtained in Type B stutterers will be significant”.

Hypothesis- 3

“The correlation coefficients among the thirteen variables obtained in adult stutterers will be significant”.

Hypothesis- 4

“There will be significant difference among adult stutterers and adult non stutterers in the thirteen variables selected for the study.

Hypothesis- 5

“There will be significant difference among the adult stutterers classified according to education (upto HSS, under graduation, post graduation and above), monthly income (upto 20000, 20000-30000, 30000 and above), birth order (first born, middle born, last born) and marital status (married, unmarried) in the variables under study”.

42