ASSESSMENT OF STIGMA IN ADULTS WITH STUTTERING DURING PRE AND POST THERAPY

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CERTIFICATE

This is to certify that the dissertation entitled "**Assessment of Stigma in Adults with Stuttering during Pre and Post Therapy**" is the bonafide work submitted in part fulfillment for the degree of Master of Science (Speech-Language Pathology) of the student (Registration No.14SLP015). This has been carried out under the guidance of a faculty of this institute and has not been submitted earlier to any other University for the award of any other Diploma or Degree.

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CERTIFICATE

This is to certify that the dissertation entitled ***Assessment of Stigma in Adults with Stuttering during Pre and Post Therapy*** has been prepared under my supervision and guidance. It is also certified that this has not been submitted earlier in any other University for the award of any Diploma or Degree.

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DECLARATION

This is to certify that this dissertation entitled “Assessment of Stigma in Adults with Stuttering during Pre and Post Therapy” is the result of my own study under the guidance of Mrs. Sangeetha Mahesh, Department of Clinical Services, All India Institute of Speech and Hearing, Mysore, and has not submitted earlier in any other University for the award of any Diploma or Degree.

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CHAPTER I

INTRODUCTION

"Wisdom is not counted in grammars, neither in fluency, but vividly shown in mannerism."
(Michael Bassey Johnson)

Communication is a form of social behaviour, used to exchange information about one's needs, desires, perception, and knowledge. Inability to communicate effectively leads to speech and language disorders. Speech is the most effective means of communication; communication gets affected when there is any disorder of speech (such as stuttering), and thereby affects individuals' ability to interact with others. Amongst the communication disorders stuttering is gaining more attention.

Stuttering is a disorder of speech. Stuttered speech is often effortful, has disrupted flow of speech, and is associated with various types of motor behaviours such as breathing abnormalities, muscular tension, avoidance behaviours, and negative emotions. Johnson (1946) reported that "A person who stutters, does to avoid stuttering and it is an anticipatory apprehensive and hypertonic avoidance reaction"; Brutten and Shoemaker (1967) defined "Stuttering is a form of fluency failure that results from conditioned negative emotion"; Van Riper and Emerick (1984) defined "Stuttering occurs when the forward flow of speech is interrupted abnormally by repetitions or prolongations of sounds/ syllables/ articulatory, or by avoidance and struggle behaviours", and American Psychological Association (2013) defined "Stuttering is usually characterized by a high level of generalized anxiety which can result in severe distress and impede functioning".

Stuttering onset usually occurs during childhood and develops in later childhood; it undergoes many changes during this course of time. As age advances, by adulthood, there can be significant increase in severity of stuttering along with

personality changes, which can be due to various factors (such as environmental, linguistic abilities, nature of social interaction, reactions, demand and capacities, etc).

Person with stuttering (PWS) exhibit both overt features and covert features. Overt features involves behaviours which are visible or evident as a listener interacts with PWS, which includes disfluencies (frequency), rate of speech, speech naturalness, coping mechanisms, etc,.; whereas covert features involves invisible or hidden aspects of PWS, such as, emotional reaction, fears, feelings, avoidance, motivation, self perception, etc,.

PWS exhibit core behaviours as well as secondary behaviours. Core behaviours are primary features, that is, disfluencies exhibited by PWS, such as repetitions, prolongations, blocks; whereas secondary behaviours are learnt reactions in response to core behaviours exhibited by PWS, such as facial grimaces, tension in head and neck area, etc,.

Stuttering varies in PWS depending on various factors. Table (1.1) depicts epidemiological data for PWS by age (Craig & Colleagues; 2002, 2003).

Table.1.1.
Epidemiological data for PWS by age (Craig & Ashley 2002, 2003)

Factors	Children 2-10 years	Adolescents 11-20 years	Adults 21-49 years	Older adults 50 + years
Prevalence	About 1.4%	About 0.5%	About 0.8%	About 0.4%
Incidence	3-5%	About 2%	About 2%	< 2%
Male : Female ratio	2 : 3.1	4 : 1	2 : 1	1.4 : 1
Spon.Recovery rate	50-75%	< 50%	< 25%	< 25%
Anxiety Levels	Normal	Slightly above normal	Abnormal	Abnormal
Comm.Fears	Slightly raised	Abnormal	Abnormal	Abnormal

Note. Spon. Recovery rate= Spontaneous Recovery Rate; Comm.Fears=Communication fears.

Theories proposed on stuttering support the notion that anxiety/ fears play an important role. According to theories and models, stuttering occurs when demands for speech prevail over capacity to produce it; it occurs as a response to components of self-concept (such as body image, self-esteem, identity, etc) affective reactions (such as feelings, emotions, & attitudes), behavioural reactions (such as avoidance, tension, & struggles), and cognitive reactions (such as thoughts & interpretations) of PWS, these aspects together play a major role, and affects PWS' perception about the entire *self* along with speech.

Stigma is the negative mark/ label attached to someone or something, which can affect an individual's quality of life, and thereby results in various issues such as anxiety, fear, depression, etc. Stigma can be of two types, that is, public and self stigma. Public stigma is a devalued expression which is evident due to reactions, and discrimination; whereas self stigma is the way individual applies the existing mark/ label on to oneself.

PWS exhibit high level of anxiety on different scales of measurement, thus suggesting that, they experience stigma, which elevates their problem. According to Bloch (1971), adult PWS are somewhat anxious and less self-confident, and also more socially withdrawn than adult persons with no stuttering (PWNS). Devaki (1981), reported that PWS have low self-confidence and poorer interpersonal relationships than PWNS.

Treatment for PWS can be direct/ indirect, fluency shaping/ stuttering modification. In order to overcome difficulties in the hidden aspects of PWS, treatment approaches should be planned in a holistic way, including aspects of stigma. These when considered together with actual treatment helps to eliminating negative/

hidden aspects of stuttering along with improving smooth speech. Thus, brings about change holistically and to increase long term effectiveness of treatment obtained by PWS.

Need for the Study

The attitudes of fluent speakers towards PWS suggest that: PWS are perceived to be shy, withdrawn, tense, anxious, and also self conscious. This generalized assumption of listeners affects the way individual who stutter see themselves, which can lead to negative emotions. As stigma may be one of the negative consequences experienced by PWS, they are likely to experience public-stigma and may be at risk of experiencing self-stigma which in turn affects the PWS overall quality of life. Hence, it becomes important to measure stigma in PWS. Research suggests stigma may impede people from seeking or fully participating in mental health services. Therefore, it will be essential to consider it during assessment and treatment of PWS. The main goal of clinicians should be to use such tools for assessment of the speaker's experience of stuttering through the use of a single, comprehensive, easy-to-use, and a detailed measurement instrument that could be used both in treatment planning and in treatment outcome research as it will be extremely useful. In this view it is essential to study PWS' negative emotions about stuttering or stigmatized attitudes. Thus, the present study focused on to assess stigma in adult PWS using 4S to measure stigma associated with stuttering in both pre-therapy and post-therapy conditions.

Aim of the study

The aim of the present study was to assess stigma in adults with stuttering during pre and post therapy using 4S.

Objectives of the study

1. To compare specific overall stigma in PWS during Pre and Post therapy assessment
2. To assess stigma in adults with stuttering across degrees of severity during pre and post- therapy assessment
3. To assess which among the stigmatizing attitudes (stereotype awareness, stereotype agreement and stereotype concurrence) vary in adults with stuttering during pre and post therapy conditions

CHAPTER II

REVIEW OF LITERATURE

"All else that was positive about them was obscured and discounted, as the presence of their stuttering captured their listener's attention and became the primary focus" (Corcoran & Stewart, 1998)

Stuttering is a speech disorder which interrupts the forward flow of speech. According to Johnson (1946) stuttering is "the behaviour exhibited by a person who stutters to avoid the dysfluent speech, reflecting on the etiology of the disorder". Brutten and Shoemaker (1968) stated that "stuttering is a form of fluency failure that results from a conditioned negative emotion". Those who view stuttering as a type of primary neurosis/ a symptom of basic emotional/ psychological conflict, define stuttering as the presumed source of conflict (cause) rather than describing the stuttering behaviour.

2.1. Models and theories of stuttering following covert features

Ice-berg Analogy of stuttering

The analogy was developed by Joseph Sheehan (1970), according to which core behaviours of stuttering are the most noticed behaviours and are apparent to listeners; this is due to the reason that emotional reactions of PWS to their stuttering can impact severity of individuals' stuttering. Thus, according to Sheehan stuttering is as an iceberg, in which majority of behaviours are associated to the behavioural aspect that lies beneath the surface. Accordingly, the visible part of iceberg is similar to the visible part of symptoms of PWS or overt features such as blocks, repetitions, prolongations, facial grimaces, visible tension in neck and face, etc; whereas invisible/ underneath part of iceberg or the covert features such as embarrassment, feelings, thoughts, fear, guilt, avoidance, emotionally withdrawn, etc.

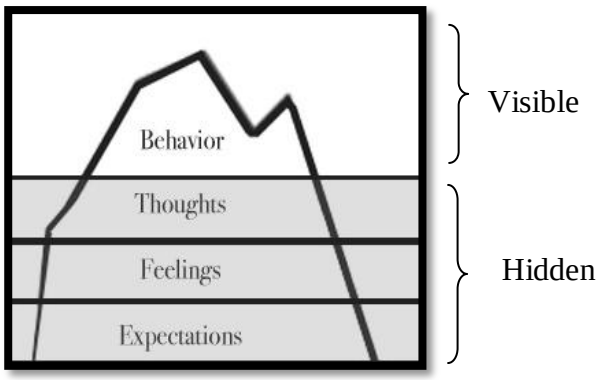

Figure 2.1.
Iceberg Analogy of stuttering

CALMS model

CALMS model was developed by Healey, Trautman, and Susca (2004), according to this model stuttering is maintained by five domains or factors, which include Cognitive, Affective, Linguistic, Motor, and Social (CALMS) contributions to a fluency disorder. These factors interact in a complex way between and among factors, that is, all factors can act independently or in combination with each other, and thereby disruption or difficulty in any one or more domain results in increased severity of stuttering.

Personal Construct Theory (PCT)

PCT was adapted from the work of Kelly (1955) on development of 'the theory of personal construct'; Fransella (1972), explored stuttering in terms of personal construct theory. Kelly noted that a person is nothing but a bundle of constructs. As a person experiences life, they develop a view about the world by developing systems of personal constructs that allow meaningful interpretation of experience, and to anticipate or predict how further events will unfold and these constructs become the person's reality. According to PCT, loosening construing

(personal dimensions of awareness of fear, guilt, anxiety, etc.) leads to being able to make more choices, and ultimately to obtain better control in managing behaviour.

Demand Capacity model (DCM)

The DCM was proposed by Starkweather, Gottwald, and Halfond, (1990, 1995), according to this model "Stutter Demand ı demands for fluency from the child's social environment exceed the child's cognitive, linguistic, motor, or emotional capacities for fluent speech". According to this model, as long as the individual's capacity for producing fluent speech is ahead of the demands for fluency that the individual's environment presents, the individual will speak fluently. When the individual's demand becomes greater or the capacities have not developed fast enough then they will not be able to speak fluently.

Capacity	Appropriate	Inappropriate
Sufficient	Fluency	Fluency
Insufficient	Stuttering	Stuttering

Figure 2.2. DC model

Multifactorial Dynamic model

The multifactorial dynamic model was put forth by Smith and DeNil (1995). This model proposes that stuttering evolves from essentially normal systems that learn, master tasks and interact poorly, abnormal patterns can self-perpetuate and become stabile, and linguistic and cognitive demands impair their motor functioning more obviously than in PWNS.

EXPLAN Theory

The EXPLAN theory proposed by Howell (2002), it argues that speech production involves independent planning and execution processes. Fluency failures (such as repetition of prior words, pausing, prolongation and part word repetition) occur when the word to be produced is not ready (the planning process is not complete) by the time the execution of the previous word is concluded. There are two factors that lead to the plan for the current word not being available in time. They are, (EX) execution time of the prior word, and (PLAN) planning time of the current word.

In the Two Factor theory of stuttering, proposed by Brutten and Shoemaker (1967) suggests that the negative emotion to the speech of PWS conditions a link between speech and anxiety. Similar theories include the Anticipatory Struggle Hypothesis proposed by Bloodstein (1987) supports the notion that stuttering occurs on considering speech as a demanding task, mainly due to the negative feeling of difficulty and frustration. The approach avoidance conflict theory suggests that stuttering occurs due to the internal conflict of approaching to speak or avoiding it. This theory was revised by Miller (1994), according to which the double approach avoidance conflict theory; it explains that when individuals with stuttering desire to approach speaking to fulfil their social obligations, they are simultaneously faced with a fear of stuttering during their speaking attempts, leading to avoidance tendencies. One means of avoiding to speak in a situation is to remain silent which is considered as a social threat.

A Multi-Level Model of Stigma

Corrigan and Watson (2002) developed a theoretical model 'A Multi-Level Model of Stigma' for explaining the levels of self-stigma, which explains self-stigma

at three levels. The three levels are: stereotype awareness, stereotype agreement, and self-concurrence (stereotype application). The amount of stigma an individual presents mainly depends on the level of acceptance and internalizing the negative emotions placed on an individual by the public. Thus, the greater/ higher amount of stigma can be seen in individual who experience and internalize more stigmatizing attitudes by the public.

2.2. Stigma

Stigma is a Greek word meaning "mark/ puncture," came into English through Latin to mean a “negative stereotype or reputation attached to something”. Stigma refers to devalued attributes, which are associated with particular groups or categories whose differences are considered as undesirable (Link, Yang, Phelan, & Collins, 2004). According to ‘Surgeon General’s Report on Mental Health’ stigma is a "powerful and pervasive," and the ‘Secretary of Health and Human Services’ added that "Fear and stigma persist, resulting in lost opportunities for individuals to seek treatment and improve or recover". Stigma can affect many aspects of people’s lives, which can lead to further psychiatric problems such as anxiety and depression.

Stigma is a multidimensional phenomenon, which lowers self-esteem, contributes to disrupted relationship, and affects the ability of an individual to socialize. People who experience and are stigmatized may feel unworthy or unable to harness the demand of life. Corrigan and Watson (2002) noted self-stigma as the application of stereotypes to oneself, which leads to internalized devaluation and disempowerment. Recent studies show that people who experience stigma often internalize stigmatizing ideas that are present within the society and have disbelief that due to their problem they are less valued in the society (Link, 1987; Link & Phelan, 2001). Individuals who agree with such stereotype will experience negative

emotional reactions, which is prominently seen/ observed as low self-esteem and low self-efficacy (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001; Markowitz, 1998). Both low self-efficacy and self-esteem are associated with failing to pursue or to take-up opportunities in individuals who can otherwise succeed (Link, 1982; 1987).

Stigma can be divided into two types, that is, public stigma, and self stigma. Public stigma is the devalued expression due to a presenting symptom or deficits that make an individual as having illness, which leads to cognitive and affective reactions in the form of stereotypes (pre-conceived notion), prejudice (pre-judgement or feeling formed before becoming aware), and discrimination. Self stigma is what the stigmatized individual does to one-self, that is, internalizing negative attitudes placed on them and also the negative consequences in the form of self-stereotypes, self-prejudice, and self-discrimination. Both public and self stigma leads to low self-esteem and low self-efficacy, and thereby results in reduced mental (helplessness, depression, anxiety, etc). Due to interaction between self-stigma and public stigma, there is influence of one on another (Corrigan, 2004).

2.3. Stigma and stuttering

Persons with stuttering (PWS) are at higher risk of developing self-stigma due to exposure to public stigma. Studies regarding stigma among PWS suggests that, PWS perceive themselves as not normal/ incompetent/ inferior because of their stuttering, and thereby restrict themselves from involving in speaking/ social interaction, and also exhibit decreased psychological well-being and mental health (Bricker-Katz, Lincoln, & McCabe, 2010; Klompass & Ross, 2004; Plexico, Manning, & Levitt, 2009). Researches provide a stronger evidence of a relationship

between stuttering and anxiety (Menzies, Onslow, & Packman, 1999), and fear of negative evaluation (Iverach, Jones, Menzies, O'Brian, Packman, & Onslow, 2011).

PWS exhibit lower self-efficacy on speaking task/situations than people who do not stutter (PWNS) (Bray, Kehle, Lawless, & Theodore, 2003; Ornstein & Manning, 1985) which is due to intrinsic component of stuttering, that is, difficulty with the process of fluent speech production. The major source of this variability can be the extent to which stigmatized individuals accept and internalize negative attitudes of society and apply them (Corrigan & Watson, 2002; Crocker & Major, 1989), and also stuttering severity. There is much variability in how stigmatized individuals respond to their stigmatized conditions. The variables associated with self-stigma which may be disability related (e.g., type of onset, course, consistency/stability, perceived responsibility, time since acquisition, visibility), personal or individual factors (e.g., personality, coping and problem solving skills, life orientation, importance of the stigma in the self-concept, religious/spiritual/ philosophical beliefs), and environmental factors (e.g., family support and acceptance, availability of self-help groups, professional services rendered, and accessibility to available treatments and assistive technologies) (Crocker & Major, 1989; Livneh & Antonak, 1997; Smart, 2001). There are minimal quantitative researches which investigated self-esteem of PWS compared to PWNS, and relatively very less evidence for AWS than CWS.

2.4. Treatment of PWS

It is known that there are many different therapeutic techniques available to treat PWS. Treatment techniques can be broadly divided into Fluency shaping and stuttering modification techniques. The fluency shaping techniques include any type

of technique or approach where the goal is ‘fluent speech’ (such as, prolongation, easy onset, light contacts, slow speech, pausing, and phrasing), whereas any type of technique where the goal is to accept that a stutter is going to happen or is happening and then make ‘physiological adjustments to modify the stutter’ so it becomes less tense, shorter duration, or maybe even become fluent (such as, cancelling, pullouts, voluntary stuttering, etc.). The goal of stuttering modification therapy is not fluent speech, but that the moments of stuttering are easier going and the stuttering is modified to a more fluent stuttering. The main promoter was Van Riper (1973), which is based on the **MIDVAS** steps, that is, Motivation, Identification, Desensitisation, Variation, Approximation, and Stabilisation.

Most of the therapy techniques focus on treating speech related aspects of PWS, than treating in a holistic way; thus there is higher number of relapses seen in these individuals even after successful treatment. Studies with respect to effective therapeutic approaches provide mixed evidence suggesting that single method of treatment could result effective in eliminating stuttering; and stutterers with same severity respond to different techniques of treatment. So it is important to concentrate on therapy using holistic approach.

2.5. Stigma with and without treatment in PWS

A wide range of treatment approaches are available for the varied nature of stuttering. Many treatment approaches primarily focuses on reducing or eliminating stuttering behaviours and most of the treatment outcome literature available for stuttering reveals that most of them have focused mainly on changes with respect to observable characteristics of stuttering, with relatively little importance given to other aspects of the disorder that PWS encounter in their day-to-day life. This may be due

to the assumption that, as these behaviours reduce, the negative consequences developed would also diminish. But, negative consequences of stuttering can still persist even after the stuttering behaviours diminish. The existing literature is mainly limited to stuttering behaviours even though the PWS experience more than these behaviours.

Early treatment may result in reduced anxiety level and also low negative expectancies, suggesting that PWS who receive treatment and attending support groups have reduced chances of exhibiting anxiety (Craig, 1990; Craig et al., 2003; Craig & Tran, 2006, Mahr & Torosian, 1999). Various studies have failed to divide samples based on treatment status. Studies have investigated the presence of anxiety/stigma only of untreated adults who stuttered or in individuals who have attended/ undergone treatment or individuals who are in the process of treatment. Study done by Craig and his colleagues (2003) divided samples into PWS who have and have not received treatment for stuttering to investigate anxiety in treated and untreated AWS; the study included 63 PWS among which 33 reported no previous treatment for stuttering, and trait anxiety (STAI) for these 33 participants did not differ significantly from PWNS, but PWS who received previous treatment demonstrated significantly higher trait anxiety than PWNS, suggesting that there may be differences in anxiety levels of AWS who received treatment from those who have not received treatment. In a study done by Craig and his colleagues (2009) showed that AWS may have an increased risk of experiencing anxiety regardless of whether they have received treatment for stuttering.

According to Ingham's (1984) anxiety modification techniques used to treat stuttering (reciprocal inhibition, hypnotherapy, drug therapy, and biofeedback) and noticed that the use of reciprocal inhibition therapy (Wolpe, 1968) to systematically

desensitize and inhibit anxiety in PWS, including the application of relaxation techniques and psychotherapy.

The experience of stuttering for PWS includes negative behavioural and cognitive reactions which limits their ability to participate in daily life activities, and thereby have negative impact on overall quality of life. According to O'Keefe (1996) severe communication disabilities results in developing frustration which have negative impact on quality of life. According to Van Riper (1971), due to low self-esteem and also fear of failure many PWS have lower levels of achievement than PWNS. According to Van Dam-Baggen and Kraaimaat (1999, 2002), PWS experience or show significantly higher levels of emotional discomfort or tension while in social situations.

Researches regarding the relationship between anxiety and stuttering provide evidence for practices such as Cognitive Behavioural Therapy (CBT). As AWS have also been found to report that stuttering treatment does not adequately address fears and concerns they have while speaking and may still present with considerable levels of anxiety even after attending speech therapy (Craig & Tran, 2006). Thus, the success of speech therapy may depend on prior or concurrent management of anxiety (Attanasio, 2000). Menzies et al. (2008) reported that CBT for reducing anxiety in AWS results in significant reductions in anxiety and avoidance, and also eliminates social phobia of diagnoses at follow-up. This was associated with significant improvements in global functioning even though there were no significant differences in rates of fluency of PWS without CBT who received only Speech therapy. Thus, CBT program for the treatment of social anxiety for AWS is beneficial as it facilitates accessible and cost-effective treatment for social phobia, and significantly improves unhelpful cognitions (fear of negative evaluation, avoidance, quality of life, etc).

2.4. Attitude in PWS and PWNS

Guitar (1976), investigated attitudes of PWS during pre and post therapy and reported that post therapy percentage of stuttered syllable was highly correlated to pre treatment measure of attitude.

Studies with respect to attitudes of fluent speakers towards persons with stuttering (PWS) suggest that: PWS were perceived to be shy, withdrawn, tense, anxious, and also self conscious. This generalized assumption of listeners affects the way individual who stutter see themselves, which can aggravate the individuals' problem, and thus, PWS' feel that they are often looked down due to their disfluencies in speech. Anxiety plays a major role in stuttering as it is a major component of advanced stuttering leading to the increase in the frequency and severity of disfluencies. According to Hughes, Gabel, Irani, and Schlagheck (2010), PWNS may have simultaneously positive and negative attitudes toward PWS regardless of gender or familiarity with PWS.

According to Klompas and Ross (2004), majority of PWS have evoked strong emotions within them that stuttering to have impacted their ability to perform better academically, impaired their relationships with teachers and classmates, and thereby also affected their self-esteem and self-image. Thus, suggesting that, there is need to assess subjective feelings during clinical practice and provide information to cope-up/ strategies to overcome those feelings.

2.5. Assessment of stuttering in PWS

The assessment of stuttering involves both formal and informal assessment, and assessing both covert and overt features. Assessment of overt features involves measuring frequency, duration, rate, naturalness, and coping mechanisms; whereas

assessment of covert features involves assessing emotional reaction, avoidance, motivation, and self perception. During regular assessment procedures clinicians usually tend to assess only overt features, and covert features tend to remain un-attended due to the reason that, covert features cannot be measured easily unlike overt behaviours. It becomes very important to analyze and understand PWS' covert features inorder to proceed in therapy, and also to bring in successful outcome in therapy. Thus it becomes essential to assess covert stuttering behaviours of PWS.

The common ways to assess covert stuttering behaviours of PWS is either by interview or questionnaire method/ rating scale. Few of the most frequently utilized covert assessment protocols are as follows:

Perception of Stuttering Inventory (PSI), was developed by Woolf (1967); it consists of 60 items, which measures PWS' awareness of struggle, avoidance, and expectancy behaviours (20 questions in each). A profile will be obtained by totalling the number of responses (as 'characteristic of me').

The Erickson Modified 24 Scale, was developed by Erickson, Andrews, and Cutler (1974); it consist of 24- items which measures communication attitude of PWS and also distinguishes the extent to which a PWS' communication attitude deviates from normal. PWS needs to read provided statements and mark true or false as a response. The test outcome suggests that, higher the score obtained poorer is the communication attitude of PWS.

Stutterer's Self Rating of Reactions to Speech Situations, was developed by Williams (1978); it assesses for 40 common speaking situations on four parameters (avoidance, reaction, stuttering, and frequency), each is scaled on 1-5 point rating scale.

Stuttering Problem Profile (SPP), designed by Silverman (1980); it was developed to help SLPs to set intervention goals important to PWS, for which 86 statements are evaluated and thereby SLP determines which area is PWS most motivated to improve. *Locus of Control of Behaviour (LCB)*, by Craig, Franklin, and Andrews (1984); it consists of 17 items (related to PWS' personal beliefs) and response for each needs to be marked by PWS on 6 point scale. It helps clinician to determine the degree to which a PWS perceives daily occurrences of stuttering to be a consequence of their behaviour. The outcome scores suggest that, higher the scores more externality/ perception of external control and lower the score more internality experienced by PWS.

As mentioned above, there are several instruments for measuring broader aspects of the stuttering, and the above mentioned once examine a wide range of factors, including the speaker's fluency in different speaking situations, the speaker's confidence that will enable to maintain fluency in different situations, motivation, the emotional reactions that speakers have towards stuttering in different speaking situations, the speaker's opinions or attitudes about stuttering, and other factors. Together, these instruments can give clinicians and researchers a more compiled information about the speaker's experience of the stuttering disorder, and the application of such tools in the study of stuttering treatment outcomes could help to provide needed information about the changes people experience as a result of therapy. Self Stigma of Stuttering Scale (4S), developed by Boyle (2013); it is scale developed in recent years, which intended to assess the multiple components of the self-stigma model described above and evaluate clients' need for treatment programs dealing with stigma reduction, as well as documenting progress in therapy that includes stigma reduction components. The 4S was created to be used by both

clinicians and researchers for tracking changes in self-stigmatizing thoughts over time. The 4S scale, would be helpful in determining the presence of self-stigma, the extent of self-stigma, and whether that changes resulted consequent to therapy.

Evidence of changes in self-stigma from assessment through therapy would therefore indicate progress and positive change in the cognitive dimension of a stuttering disorder, which is an important component to consider for improving clients' quality of life and social participation (Yaruss, Coleman, & Quesal, 2012). The scale was developed after a thorough literature review and interviews with PWS. The 33 items in the final version of the 4S underwent factor analysis and a three factor solution was most parsimonious. The 4S measures awareness (e.g., "Most people in the general public believe that PWS are insecure"), agreement ("I believe that PWS are generally nervous"), and application (previously labelled "self-concurrence" in Boyle, 2013) ("Because I stutter, I feel less sociable than people who do not stutter").

Based on previous evidence, it was anticipated that self-stigma scores would be negatively correlated with hope, empowerment, quality of life, and social support. In addition, self stigma scores are positively correlated with anxiety, depression, and self-rated speech disruption in adults who stutter. In accordance with the multi-component stigma model proposed by Corrigan and colleagues (2011, 2012), it was expected that the strength of these correlations would progressively increase from awareness through application of stigma. It was also of interest to determine if the factor structure and reliability estimates obtained in the previous study (Boyle, 2013) could be replicated with a different sample .ie., in Indian context it was anticipated that the original factor structure and reliability estimates would be replicated. Hence, the present study aimed to assess stigma in adults with stuttering during pre and post therapy conditions, in Indian context.

CHAPTER III

METHOD

"We plan. We develop. We deliver. We assess and evaluate the results of the assessment. We revise, deliver the revised material, and assess and evaluate again. Perfection is always just out of reach; but continually striving for perfection contributes to keeping both our instruction fresh and our interest in teaching piqued."
(E.S. Grassian)

The present study examined the self stigma/ stigmatizing attitudes associated with stuttering in AWS using Self Stigma of Stuttering Scale (4S) during both pre-therapy and post-therapy conditions. The participants considered for the study were recruited from AIISH, Mysore, who were presently availing the therapy services and individuals who recently completed the OPD evaluation at the institute.

3.1. Participants

A total of fifteen adults between the age ranges of 18-35 years, who were diagnosed as having stuttering by a Speech Language Pathologist (SLP) were recruited for the study. The study comprised of three groups, and the details are as follows:

Group 1: AWS with diagnosis of mild stuttering

Group 2: AWS with diagnosis of moderate stuttering

Group 3: AWS with diagnosis of severe stuttering

Inclusion criteria

- Individuals with no history of any speech, language, hearing, cognitive or any neurological disorders.

- Individuals who were literate with a minimum of class 12th and English being the medium of instruction.

Demographic Data

The details of all the participants in each group are provided in the following table.

Table 3.1.
Demographic data of 15 PWS recruited for the study

Participants	Age (in years)	Stuttering Severity
1	21	Mild
2	20	Mild
3	20	Mild
4	18	Mild
5	24	Mild
6	20	Moderate
7	25	Moderate
8	23	Moderate
9	27	Moderate
10	18	Moderate
11	24	Severe
12	23	Severe
13	23	Severe
14	33	Severe
15	18	Severe

3.2. Materials

1. A Questionnaire was developed to gather information regarding PWS' demographic details, history (nature, onset, relapses, severity, and therapy related information), etc. (Appendix I)
2. Stuttering Severity Instrument-3 (SSI-3) developed by Riley (1994) was used to objectively measure and quantify stuttering severity of all the participants.
3. 4S which was developed by Boyle (2013) was utilized to assess self stigma/ stigmatizing attitudes of PWS.

   Approval to use this scale for the present study was obtained from the author via e-mail.

Description of 4S

4S is the first scale to measure the self-stigma associated with stuttering for research and clinical purposes. It is a self rating scale, which can be administered in a relatively brief period of time (about 5 minutes). It consists of 33 questions, which are designed to assess three major components of stigmatizing attitudes of PWS, such as, stereotype awareness, stereotype agreement, and stereotype concurrence. The scores would provide information with respect to multiple levels of stigma that appear in PWS, and thereby help clinician to counsel better by explaining stigma related to stuttering.

Stereotype awareness refers to PWS' awareness of negative stereotypes in public about stuttering and PWS, which assessed in question 1-14; Stereotype agreement refers to PWS' agreement and expressing of stereotypes that is held by general public, which assessed in question 15-21; Stereotype concurrence/ application refers to PWS' internalize negative beliefs found in public and apply it to themselves, which assessed in question 22-33.

3.3. Procedure

The study was conducted in clinical set-up and was carried out in a quiet room. Only those who satisfied inclusion criteria were recruited for the study. All procedures were done to each of the participants in the presence of examiner. This study was conducted in two phases, Phase 1 and Phase 2.

Phase 1: Administration of questionnaire, SSI-3, and 4S before therapy

- The procedure was initiated with a five minute informal conversational interaction, during which a questionnaire was administered to obtain demographic and other related details of the PWS.

- After a brief description of the study, a written consent indicating willingness to participate was obtained from PWS.
- SSI-3 was administered to determine the degree of stuttering severity.
- 4S was administered prior to the initiation of therapy so as to assess stigma/ stigmatizing attitudes of PWS.

Instruction: Participants were asked to read all the statements given in 4S and fill it accordingly on a five point scale. The instruction were as follows, "During the filling of questionnaire, read all the statements carefully and respond accordingly by encircling/ ticking the appropriate numerical value, where 1 indicates strongly disagree, 2 indicates somewhat agree, 3 indicates neither agree nor disagree, 4 indicates somewhat agree, and 5 indicates strongly agree, and to further clarify in case of queries with any of the statements".

Phase 2: Administration of SSI-3 and 4S after therapy

- Following ten sessions of fluency shaping therapy, information was obtained concerning the specific technique used, implementation of technique in real life situation, usefulness, and their confidence to use the technique.
- SSI-3 was re-administered to determine the severity of stuttering after attending ten sessions of fluency shaping therapy.
- 4S was re-administered after ten sessions of fluency shaping therapy to determine the changes in stigmatizing attitudes.

3.4. Scoring

The scoring of the 4S was done according to the guidelines given by Boyle (2013) in original publication.

Scoring for each sub-scale and overall are as follows:

- Stigma awareness includes adding up responses of questions 1-14, for which a possible range of score is 14-70.
- Stereotype agreement was calculated by adding up responses of questions 15-21, for which a possible range of scores is 7-35.
- Stigma application was calculated by adding up responses of questions 22-33, for which a possible range of scores is 12-60.
- The scores obtained in each sub-scale were averaged to obtain a range of 1-5; It was calculated using following formulae:

$$\text{Sub-scale Average} = \frac{\text{Total score obtained in a sub-scale}}{\text{Total number of Questions in a sub-scale}}$$

- The averages equal to and greater than three represented more stigma and below which represented less stigma.
- The overall scores were also summed up by calculating/summing up sub-scale scores to arrive at scores ranging from 33-165; this was averaged in a range of 1-5 (average closer to 5 / equal to or greater than 3 indicate of high stigma and closer to 1/ lesser than 3 indicate of less stigma).

$$\text{Overall Average} = \frac{\text{Total overall score obtained in all sub-scale}}{\text{Total number of Questions}}$$

- Greater overall score and average suggests greater/ higher amount of self-stigma.

In the present study, the data analysis was as follows

- Overall stigma in PWS, for which average of total score was computed and considered for statistical procedures.

- Stigma across severity, for which the average of overall score, as well as average in each sub- scales were calculated, and compared across stuttering severity groups.
- Stigmatizing attitudes, for which the average of sub-scales were obtained, and comparison was made with each stuttering severity groups.

Statistical Analysis

The obtained data was subjected to statistical analysis using the SPSS (version 20.0) software package. The following statistical analyses were performed:

- Test of normality (Shapiro Wilk's test of normality) was performed to check for normal distribution.
- Descriptive statistical analysis was performed to obtain Mean, Median, and Standard deviation.
- Friedman's test was performed to check overall stigma during pre and post therapy conditions.
- Kruskal-Wallis was performed to check for statistical significant difference between stuttering severity groups.
- Wilcoxon signed rank test was employed to compare each stigmatizing attitudes during pre and post therapy conditions.

CHAPTER IV

RESULTS

"By object is meant some element in the complex whole that is defined in abstraction from the whole of which it is a distinction".
- John Dewey

The present study aimed to determine self stigma in Persons with stuttering (PWS) during pre and post therapy conditions using the Self Stigma of Stuttering Scale (4S). Specifically to determine the stigma across severity (mild, moderate, and severe) and across stigmatizing attitudes (stigma awareness, stigma agreement, and stigma application) in pre and post therapy conditions.

The study was a Quasi-experimental, pre-post intervention study. The dependent variables were stigmatizing attitudes such as stigma awareness, stigma agreement, and stigma application; whereas independent variable was stuttering severity. For the statistical analysis, SPSS (Statistical Package for the Social Sciences) – Version 20.0 software was used.

Test- Retest reliability

The 4S was readministered on 5 participants both during pre as well as post therapy conditions. Acceptable level of reliability was achieved for all the sub scales averages and also for average overall score. Table 4.1 indicates the results of Cronbach's alpha coefficient for reliability testing. The Cronbach's alpha value ranged from 0.71 to 0.98 indicative of good reliability.

Table 4.1.
Results of Cronbach's alpha coefficient for 4S

Sub scales	Cronbach's alpha coefficient	
	Pre Therapy	**Post Tharapy**
S.Aw	0.90	0.98
S.Ag	0.96	0.97
S.Ap	0.71	0.98
Overall	0.95	0.89

Note. S.Aw= Stigma Awareness; S.Ag= Stigma Agreement; S.Ap= Stigma Application

The results of the present study are presented under the following sub-headings:

1. Test of normality
2. Stigma in PWS across pre and post therapy
3. Overall Stigma across severity groups during pre and post therapy
4. Stigmatizing attitudes during pre and post therapy in each stuttering severity group

1. Test of normality

Shapiro Wilk's test of normality was performed, and it was observed that all participants followed normal distribution ($p>0.05$) in all domains except in overall per-therapy condition; and no exceptions were found when same procedure was performed across groups (mild, moderate, and severe). Even though normality was achieved, non-parametric tests were performed as the scale used for assessing stigma was ordinal scale, and also due to small sample size of 15 PWS, who were further divided into 3 groups (5 mild, 5 moderate, 5 sever stuttering).

2. Stigma in PWS across pre and post therapy

Stigma averages were tabulated for 15 participants (PWS) and descriptive statistical analysis was performed to arrive at mean and Standard deviation (SD). During pre therapy, PWS had a mean of 3.30 in stigma awareness (S.Aw) with SD of 0.72, mean of 3.42 in stigma agreement (S.Ag) with SD of 0.76, and 3.49 as a mean

value in stigma application (S.Ap) with SD of 0.81; whereas during post therapy mean obtained on S.Aw, S.Ag, and S.Ap were 2.53, 2.32, and 2.17 with SD of 0.77, 0.63, and 0.68 respectively. The overall mean obtained during pre therapy was of 3.39 with SD of 0.55 as compared to post-therapy mean of 2.40 with SD of 0.65, suggesting presence of higher self stigma during pre-therapy and lower self stigma during post therapy (following 10 sessions). The Mean, Median, and SD of overall stigma in PWS during pre and post therapy conditions are depicted in Table 4.2. Figure 4.1 illustrates the mean overall stigma of PWS across pre and post therapy conditions.

Table 4.2.
Mean, Median, and SD of self stigma during pre and post therapy in PWS

Sub scales	**Pre-Therapy**			**Post-Therapy**		
	Mean	SD	Median	Mean	SD	Median
S.Aw	3.30	0.72	3.35	2.53	0.77	2.35
S.Ag	3.42	0.76	3.57	2.32	0.63	2.28
S.Ap	3.49	0.81	3.66	2.17	0.68	2.16
Overall	3.39	0.55	3.60	2.40	0.65	2.45

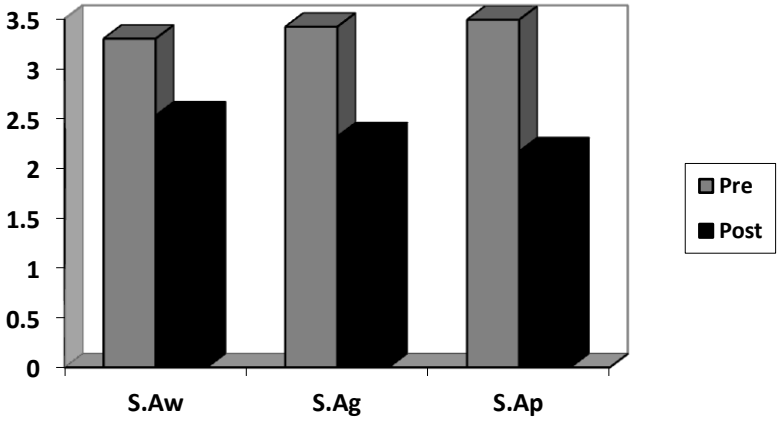

Figure 4.1.
Mean of self stigma during pre and post therapy

Friedman's test was performed to check for overall stigma in PWS during pre and post therapy conditions. It was observed that there was statistically significant

difference in overall stigma of PWS during pre therapy to post therapy conditions [$\chi 2$ (5) = 36.95, $p<0.05$]. Furthermore, Wilcoxon signed rank test was performed to compare across each stigmatizing attitudes during pre and post therapy conditions, and it was found that there was a statistically significant difference across each stigmatizing attitudes from pre therapy to post therapy condition. Table 4.3. depicts test results in each stigmatizing attitudes from pre therapy to post therapy.

Table 4.3.
Wilcoxon signed rank test results across each stigmatizing attitudes across during pre and post therapy conditions

Wilcoxon signed rank test scores	S.Aw	S.Ag	S.Ap	Overall
|z|	3.29	3.18	3.40	3.40
p-value	0.00*	0.00*	0.00*	0.00*

Note: * = Significance at 0.05 level

3. Overall Stigma across severity groups during pre and post therapy

Stigma averages across stigmatizing attitudes were tabulated for each severity group during pre and post therapy conditions and descriptive statistical analysis was performed to arrive at Mean and Standard deviation (SD). Group 1 (consisting of PWS with mild degree of stuttering) had a overall mean of 3.56 with a SD of 0.16 during pre therapy and a mean of 2.42 with SD of 0.81 during post therapy; during pre therapy mean obtained in S.Aw was 3.56 with SD of 0.69, mean of 3.65 in S.Ag with SD of 0.41, and 3.51 as a mean value in S.Ap with SD of 0.49; whereas during post therapy mean obtained on S.Aw, S.Ag, and S.Ap were 2.69, 2.31, and 2.18 with SD of 1.11, 0.81, and 0.55 respectively. The overall mean obtained during pre therapy by group 2 (consisting of PWS with moderate degree of stuttering) was 3.06 with SD of 0.86 and a mean of 2.26 with SD of 0.73 during post therapy; mean obtained during pre therapy in S.Aw was of 3.01 with SD of 1.33, in S.Ag mean obtained was 2.91 with 1.03 as SD, and 3.22 as a mean in S.Ap with a SD of 1.25; whereas during post-

therapy mean obtained in S.Aw, S.Ag, and S.Ap were 2.24, 2.16, and 1.94 with SD of 0.69, 0.61, and 0.51 respectively. The overall mean obtained by group 3 (consisting of PWS with severe degree of stuttering) was 3.55 and 2.52 with SD of 0.33 and 0.49 during pre and post therapy respectively; during pre therapy mean obtained in S.Aw was of 3.34 with SD of 0.25, mean in S.Ag was 3.72 with SD of 0.54, and 3.73 mean in S.Ap with a SD of 0.56; whereas during post-therapy mean obtained in S.Aw, S.Ag, and S.Ap were 2.65, 2.51, and 2.39 with SD of 0.45, 0.54, and 0.97 respectively. Thus, the results suggests presence of higher self stigma during pre-therapy and lower self stigma during post therapy (following 10 sessions) across severity groups. Table 4.4 depicts Mean, Median, and SD obtained by participants in each stuttering severity groups. Figures 4.2, 4.3, and 4.4 displays the average mean for stigma awareness, stigma agreement, and stigma application respectively.

Table 4.4.
Mean, Median, and SD across stuttering severity groups in stigmatizing attitudes

Groups	**Stigmatizing Attitudes**	**Pre Therapy**			**Post Therapy**		
		Mean	SD	Median	Mean	SD	Median
Group 1	S.Aw	3.56	0.69	3.50	2.69	1.11	2.35
	S.Ag	3.65	0.41	3.71	2.31	0.81	2.28
	S.Ap	3.51	0.49	3.50	2.18	0.55	2.33
	Overall	3.56	0.16	3.60	2.42	0.81	2.33
Group 2	S.Aw	3.01	1.03	2.78	2.24	0.69	2.28
	S.Ag	2.91	1.03	3.14	2.16	0.61	1.85
	S.Ap	3.22	1.25	3.00	1.94	0.51	2.00
	Overall	3.06	0.86	3.45	2.26	0.73	2.27
Group 3	S.Aw	3.34	0.25	3.42	2.65	0.45	2.78
	S.Ag	3.72	0.54	3.71	2.51	0.54	2.57
	S.Ap	3.73	0.56	3.83	2.39	0.97	2.08
	Overall	3.55	0.33	3.63	2.52	0.49	2.48

Note. Group 1= Mild, Group 2= Moderate, Group 3= Severe

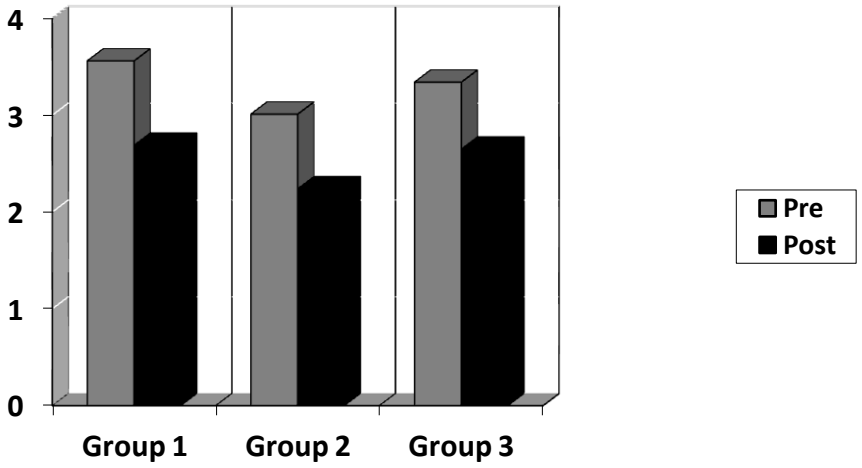

Figure 4.2.
Mean of S.Aw across stuttering severity groups during pre and post therapy

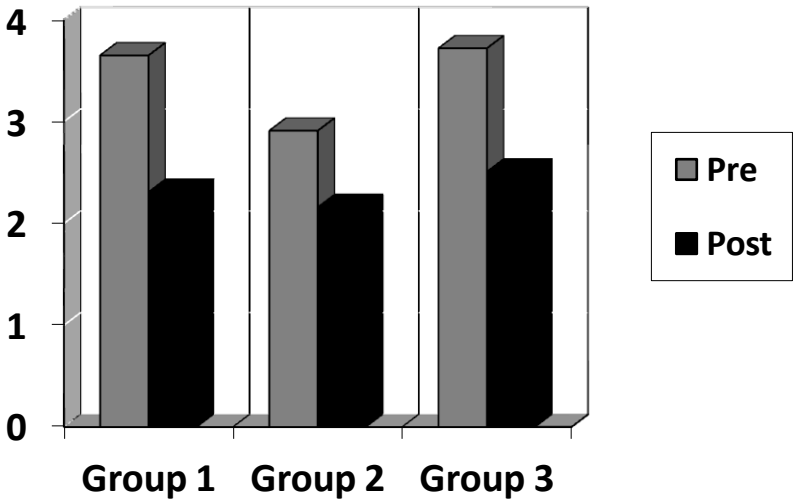

Figure 4.3.
Mean of S.Ag across stuttering severity groups during pre and post therapy

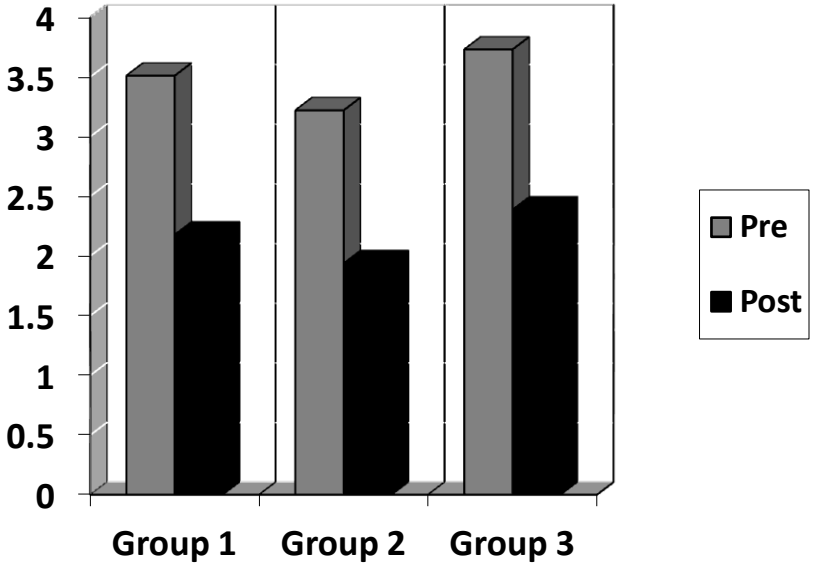

Figure 4.4.
Mean of S.Ap across stuttering severity groups during pre and post therapy

Kruskal-Wallis test was performed to examine stigma across stuttering severity groups. It revealed that there was no statistically significant difference in stigma across stuttering severity groups in pre therapy condition, as well as in post therapy condition. The following tables 4.5 and 4.6 depicts Kruskal- Wallis test results across stuttering severity groups in pre therapy and in post therapy conditions, respectively.

Table 4.5.
Results of Kruskal- Walli's test to compare stigma across stuttering severity groups in pre therapy conditions

Kruskal Walli's score in Pre Tharpy condition	S.Aw	S.Ag	S.Ap	Overall
$\chi 2$ (df=2)	1.58	1.68	0.26	1.43
p-value	0.45	0.43	0.87	0.48

Table 4.6.
Results of Kruskal- Walli's test to compare stigma across stuttering severity groups in post therapy conditions

Kruskal Walli's score in Post Therapy conditions	S.Aw	S.Ag	S.Ap	Overall
$\chi 2$ (df=2)	0.56	1.21	0.98	0.60
p-value	0.75	0.54	0.61	0.73

It can be inferred from tables 4.4 and 4.5, that there was no statistically significant difference in stigmatizing attitudes across stuttering severity groups both in pre as well as in post therapy conditions.

4. Stigmatizing attitudes during pre and post therapy in each stuttering severity group

Mean and SD for each stuttering severity groups are mentioned in table 4.4, which reveals that there was a slight reduction in the amount of stigma experienced by PWS in each stuttering severity groups when compared to their mean scores obtained during pre therapy condition. Figures 4.5, 4.6, and 4.7 depict stigmatizing attitudes in group 1, 2, and 3 respectively.

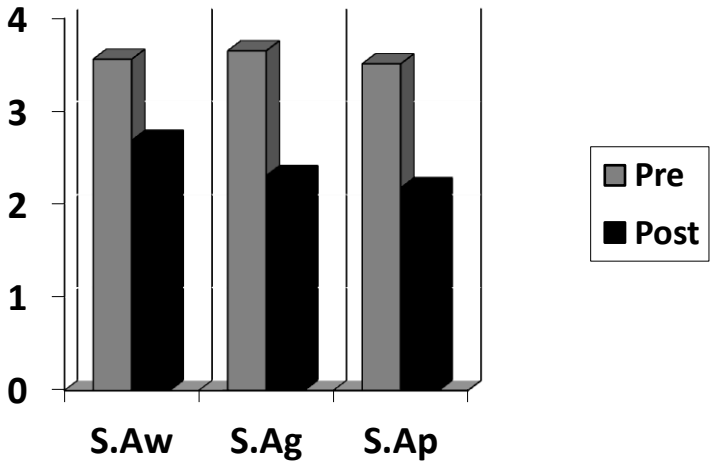

Figure 4.5.
Mean across stigmatizing attitudes in Group 1 during pre and post therapy

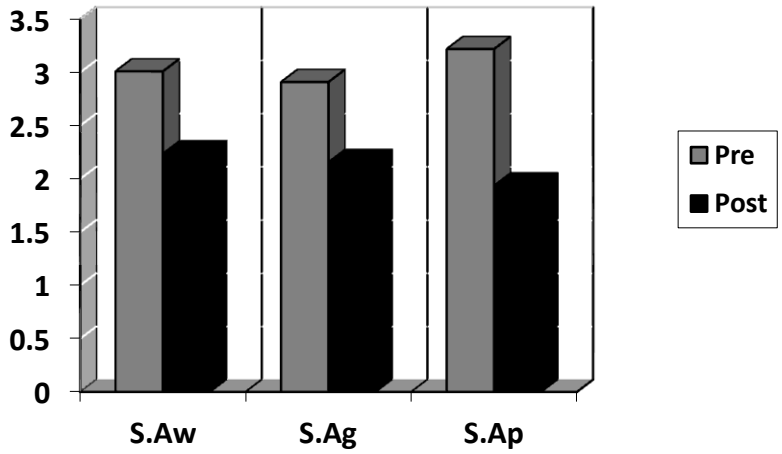

Figure 4.6.
Mean across stigmatizing attitudes in Group 2 during pre and post therapy

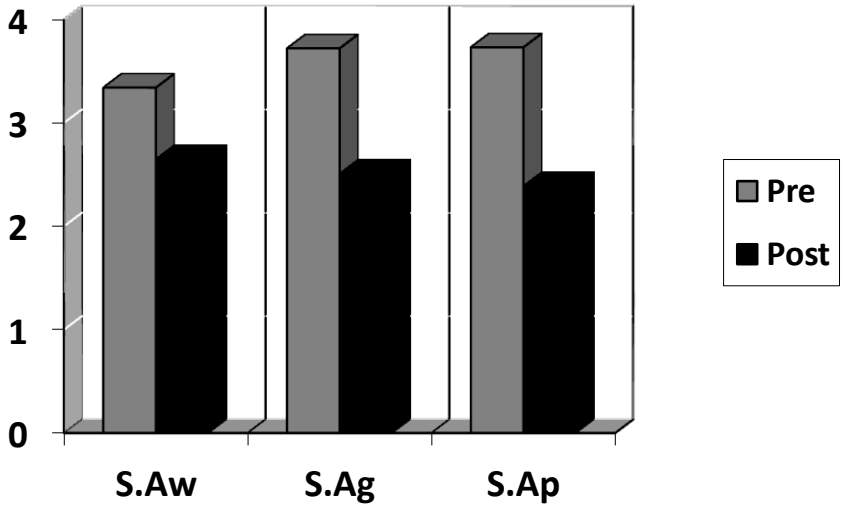

Figure 4.7.
Mean across stigmatizing attitudes in Group 3 during pre and post therapy

Wilcoxon signed rank test was performed to compare across each stigmatizing attitudes in each stuttering severity groups during pre and post therapy conditions, and it was found that there was a statistically significant difference across each stigmatizing attitudes in each group from pre therapy to post therapy condition. It was found that group 1 comprising of PWS with mild stuttering showed statistically significant difference in each stigmatizing attitudes from pre to post therapy

(|z| =2.02, p < 0.05 in S.Aw, S.Ag, and S.Ap), group 2 comprising of PWS with moderate stuttering showed statistically significant difference in stigma awareness and in stigma application (|z| = 2.02, p < 0.05 in S.Aw and S.Ap) whereas no statistically significant difference in stigma agreement (|z| = 1.60, p >0.05), and in group 3 comprising of PWS with severe stuttering had statistically significant difference in stigma agreement and in stigma application (|z| = 2.02, p < 0.05 in S.Ag and S.Ap) which was not evident in stigma awareness (|z| = 1.82, p > 0.05 in S.Aw). Tables 4.7 depict test results in each stigmatizing attitudes from pre therapy to post therapy and in each stuttering severity groups respectively.

Table 4.7.
Wilcoxon signed rank test results for each stigmatizing attitudes during pre and post therapy conditions in each stuttering severity group

	S.Aw	S.Ag	S.Ap	Overall
Group 1				
|z|	2.02	2.02	2.02	2.02
p-value	0.04*	0.04*	0.04*	0.04*
Group 2				
|z|	2.02	1.60	2.02	2.02
p-value	0.04*	0.10	0.04*	0.04*
Group 3				
|z|	1.82	2.02	2.02	2.02
p-value	0.06	0.04*	0.04*	0.04*

Note. * = Significance at 0.05 level

The results showed that the PWS in mild group varied to a greater extent in all stigmatizing attitudes (S.Aw, S.Ag, and S.Ap) from pre therapy to post therapy conditions, suggesting that reduced stigma in all aspects during post therapy. Similarly, it was also observed that PWS in moderate group exhibited lower stigma in S.Aw and S.Ap, but not in S.Ag. PWS in severe group exhibited lower stigma in S.Ag and S.Ap, but not in S.Aw. The results support the notion that therapy helps PWS to overcome stigma, fears, their beliefs about self and PWS in general, and also their opinion about what they believe most people in public think about PWS.

To conclude, the results of the present study as per the objectives are as mentioned

- There was statistically significant difference in overall stigma and stigmatizing conditions in all PWS from pre to post therapy conditions.
- Statistically significant difference was not evident interms of overall stigma across severity groups, both in pre as well as in post therapy conditions.
- Statistically significant difference was obtained in stigmatizing attitudes during pre and post therapy in each stuttering severity groups.

CHAPTER V

DISCUSSION

"Discussion is an exchange of knowledge; argument an exchange of ignorance."
(Robert Quillen)

"I think that in the discussion of natural problems we ought to begin not with the scriptures, but with experiments, and demonstrations."
(Galileo Galilei)

The present study aimed to determine self stigma in PWS during pre and post therapy conditions using 4S. The results obtained suggest that, PWS experience lower levels of self stigma during post therapy condition as compared to pre therapy condition on 4S which is specifically used to determine stigma across stigmatizing attitudes (S.Aw, S.Ag, and S.Ap) in PWS. In general, it was observed that PWS across stuttering severity groups (group 1- mild, group 2- moderate, and group 3- severe) performed almost similarly across stigmatizing attitudes, suggesting that there is not much of variations in the way PWS across severity groups experience stigma. During therapy program PWS were made to use therapy techniques such as modified air flow, prolongation, relaxation, breathing exercises, gentle/ smooth contact, and post therapy measure were done following 10 therapy sessions. The results with respect to stigma variations in PWS are discussed in the following sections.

5.1. Impact of therapy/ Role of therapy

Earlier studies about treatment outcomes measure have focused primarily on the stuttering behaviours (i.e., dysfluencies in speech), even though many treatment approaches also focus on broader issues related to the consequences of these speech disruptions on the speaker's life, only few studies in the literature had provided information regarding the same in pre and post therapy conditions. Recent studies

with respect to stuttering are focusing on personality issues that are present in PWS. Thus, stuttering is not only a problem related to speech function, but also personal/ personality problem.

In the present study, PWS were introduced to therapy technique, that is, either prolongation or modified air flow technique, along with counselling. All 15 PWS had attended ten sessions. Among 15 PWS ten had attended demonstration therapy, whereas the other five attended regular therapy program. Pre therapy measures were made prior to the initiation of therapy, and post therapy measures were obtained following ten therapy sessions. The results obtained revealed that all PWS exhibited lower stigma during post therapy condition when compared to that of pre therapy scores. Studies related to impact of therapy discusses various aspects such as method, duration, and frequency of stuttering treatment across stuttering severity groups; the studies report that even though there is little consensus with respect to which treatment procedure/ duration/ and frequency are most effective. According to Andrews, Guitar, and Howie (1980) the most frequently used treatment techniques were prolonged speech (29%), rhythm (21%), and attitude therapy (12%), and they also help clinician to yield effective results. A recent study by Herder, Howard, Nye, and Vanryckeghem (2006), reported that intervention for stuttering results in an overall positive effect, and no one treatment approach for stuttering demonstrates significantly greater effects over another treatment approach, because no single treatment is effective for every PWS and also because everyone is different, and thus some treatments need to be tailored to the individual.

In the present study, all PWS attended ten sessions prior to post therapy re-administration of 4S. It was noticed that the therapy techniques used and also the counselling provided by clinicians was effective and facilitated in lowering stigma

levels in all PWS during post therapy when compared to their pre therapy scores. This finding was evident irrespective of groups (mild, moderate, and severe). Studies with respect to duration and frequency of treatment suggest that, treatment program should range from 3 months to 3 years, with variable number of sessions or lasting for 2 weeks to 3 months. According to Reddy, Sharma, and Shivasankar (2010), the program should consist of 22 to 23 sessions in total, with 16 to 18 sessions for therapeutic intervention and the rest of the sessions for assessments, and duration of an individual session to be 60 minutes, carried out for over a period of 4 to 6 weeks; whereas Moco, Oliveria, and Pereira (2014), reported based on the literature studied and clinical experience, that the program should be for 18 sessions of 50 minutes each. In recent years, it is also noted that, presence of observers or active agents significantly increased with the aim of facilitating generalization and maintenance of treatment effects (Felsenfeld, 1997).

5.2. Stigma in PWS across pre and post therapy

According to the results obtained in the present study, it was observed that there was statistically significant difference in overall stigma experienced by PWS during post therapy when compared to pre therapy condition. The same was observed in terms of mean obtained during pre and post therapy conditions, that is, there was a slight reduction in the amount of stigma experienced by PWS in post therapy condition when compared to pre therapy condition, that is, PWS experienced relatively lower level of stigma in post therapy when compared to pre therapy condition.

Studies in consensus with the present results

The results of present study are in consensus with previous studies. Andrews and Cutler (1974) reported that there is a partial change in attitude and it was not

changed to normal until PWS completed program of supervised experiences, and also suggests that, through therapy attitudes of PWS can be changed to some extent. Plexico, Mannig, and Levitt (2009) reported that, PWS moved from emotion-based avoidant patterns that focuses on protecting self and listener from experiencing discomfort associated with stuttering to cognitive- based approach patterns that focuses on needs of speaker during post therapy. Few other researchers report that, PWS show reduced anxiety about speaking situation after attending therapy. Similarly, Guitar (1976), investigated relationship between pre and post therapy attitudes of PWS, and concluded that process of therapeutic changes involves modification in negative speech related attitudes along with smooth speech production. Hence, it is also evident from these studies that there is attitude change, and change in self perception/ self image of PWS towards communication and communication partners.

5.3. Overall Stigma across severity groups during pre and post therapy

Results of the present study revealed that, there was no statistically significant difference in stigma across stuttering severity groups both in pre therapy and post therapy conditions. But mean values obtained revealed that, there was a slight higher score obtained by mild group in stigma awareness following which severe group had relatively higher stigma awareness than individual in moderate stuttering group; whereas stigma agreement was higher in severe stuttering group, following which mild group had relatively higher stigma agreement, than PWS in moderate stuttering severity group; similar results as in stigma agreement was evident in stigma application as well.

In the present study, there is no significant difference in the way different severity groups experience stigma, this can be due to the reason that, a total of 15

PWS recruited for the study were further divided into five in each stuttering severity groups(mild, moderate, and severe), and also the educational background of each individual.

In general it can be inferred that, PWS in moderate severity group had relatively less stigma when compared to that of severe as well as mild stuttering group. It was observed that all PWS in moderate group had good education level (had completed Under Graduation program), which was not seen in case of individuals with mild and severe stuttering groups (five out of ten: mild and severe stuttering group had education level as completed Class 12^{th}). Stigma Awareness was observed to be more in PWS of mild group, this can be due to presence of positive family history of stuttering (three out of five PWS recruited in mild group had a positive family history of stuttering), and thus they had increased negative perception about how stutterers will be looked upon by general public. Lastly, Stigma application was observed to be more in individuals with severe stuttering group, this can be due to prolonged and higher degree of bullying during childhood, thereby, their perception about self when compared to others (PWNS); and it was also observed that relapse was seen in these individuals (three out of five had relapse), due to which even though they had attended therapy earlier and were aware of therapy techniques, their self perception was low.

Studies in consensus with the present results

Bloodstein (1950) speculated that the reduction in stuttering severity will reduce anxiety about stuttering. Stuttering severity is dependent on factors such as communication partner status, novelty or familiarity of speaking situation (Buss, 1980; Porter, 1939; Seigel & Haugen, 1964). Studies addresed by several researchers suggest presence of negative communication attitudes in all PWS (Baumgartner &

Brutten, 1983; Bloodstein, 1975), & Vanryekeghem & Brutten, 1996). Vinacour and Levin (2004) noted no difference in anxiety levels in PWS as a function of stuttering severity. Additionally Rodney and Linda (2002) favoured the results, who ascertained that PWS show increased anxiety regardless of condition.

5.4. Stigmatizing attitudes during pre and post therapy in each stuttering severity group

It can be inferred from the results that, there was statistically significant difference across stigmatizing attitudes during pre and post therapy conditions in each stuttering severity groups. It was observed that PWS in group 1 (mild stuttering) had relatively higher stigma agreement, following which higher stigma was evident in stigma awareness, and then in stigma application. Thus, it can be inferred that PWS in mild group were better in terms of self perception. PWS in group 2 (moderate stuttering) had higher level of stigma in stigma application, than on stigma awareness and stigma agreement, following which higher stigma was evident in stigma awareness, and then least in stigma application. PWS in group 3 (severe stuttering) also exhibited higher stigma application and in stigma agreement on almost similar way, following which least stigma was observed in stigma awareness.

According to literature, Severe stuttering individuals are mainly associated with negative emotions i.e., embarrassment, frustration, and apprehension of negative social emotion. Because of anxiety and negative emotions, PWS exhibit maladaptive physical adjustment in their speech mechanism (Hulit, 2004). Early treatment may result in reduced anxiety level and also low negative expectancies, suggesting that PWS who receive treatment and attending support groups have reduced chances of exhibiting anxiety (Craig, 1990; Craig et al., 2003; Craig & Tran, 2006, Mahr & Torosian, 1999).

Finally, In the present study reduced level of stigma experienced by PWS in post therapy condition can be attributed to aspects such as method/ technique, duration and also frequency of treatment obtained by the participants, along with other factors such as family history of stuttering, onset of stuttering, earlier treatment obtained, and also education level of the participants. Here, all participants were introduced to use either prolongation technique (7 out of 15 PWS) or modified air flow technique along with gentle onset (8 out of 15 PWS); all had obtained 10 therapy session duration, lasting for 45 minutes each; ten participants had attended demonstration therapy and five participants attended regular therapy (with 2-3 visits a week). All participants who were recruited for the present study had onset of stuttering early during childhood; only four out of 15 PWS had a positive family history of stuttering, and 2 individual reported that environment being the possible cause, whereas others reported that the cause was unknown. Among 15 participants recruited for the study, six PWS had received treatment earlier, either during childhood or at least 2 years prior, and had experienced relapses in stuttering events. Five out of 15 PWS had a education level as class 12^{th}, whereas others were either had completed or currently pursuing under graduation degree programs. Maree and Hancke (2014) reported that, counselling enabled the individual to engage in meaningful career exploration, and also made PWS more capable of making a career choice with a sense of empowerment. Study by Blomgren, Ray, and Callister (1994), speculated that significant differences were evident following 3 week intensive stuttering modification treatment program. Linn and Caruso (1998) reported that counselling helps PWS to gain control of social avoidance, thereby increasing social and vocational opportunities. Speech restructuring treatment alone had no impact on reducing covert aspects of PWS; significant and sustained effect was seen when

Cognitive Behaviour Therapy (CBT) was associated with restructuring treatment (Menzies, O' Brain, Onslow, and Packman; 2008).

The results correspond to various theories postulated, as discussed earlier in introduction. In light of Iceberg Analogy of stuttering by Joseph Sheehan (1970), the internal/ hidden aspects, feelings, thoughts of PWS will go unnoticed to clinician, and thereby, can result in increased stigma in various stigmatizing attitudes. According to CALMS model, factors such as, Cognitive, Affective, Linguistic, Motor, and Social aspects will interact leading to increased disfluencies (as seen in relapse). According PCT by Fransella (1970), the experiences will help PWS both in positive and negative ways; that is, when PWS experience positive consequences, they obtain better control in managing their behaviours. Thereby, it can be inferred that theories proposed on stuttering support the notion that anxiety/ fears plays an important role.

The present finding can be further supported by Bloch (1971), according to which PWS are somewhat anxious and less self-confident, and more socially withdrawn than adult PWNS. Devaki (1981) ascertained that the PWS have low self confidence and poorer interpersonal relationships than PWNS. The amount of stigma an individual presents mainly depends on the level of acceptance and internalizing the negative emotions placed on an individual by the public. Thus, the greater/ higher amount of stigma can be seen in individual who experience and internalize more stigmatizing attitudes by the public.

CHAPTER VI

SUMMARY AND CONCLUSIONS

"Life is an accumulation of what your Heart and mind has pondered most, a conclusion of all your wishes, dreams and desires."
(Steven Redhead)

The present study aimed to assess self stigma in PWS during pre and post therapy conditions, for which a total of 15 PWS aged between 18-35 years and satisfied inclusion criteria were recruited from AIISH, Mysore. Self Stigma of Stuttering Scale (4S) by Boyle (2013) was utilized, specifically to determine the stigma across stigmatizing attitudes (stigma awareness, stigma agreement, and stigma application) in pre and post therapy conditions in each stuttering severity groups (5 mild, 5 moderate, and 5 severe).

Data was obtained in two phases. During phase 1 informal conversational interaction to obtain demographic and other related details of the PWS, written consent was obtained, SSI-3 was done to determine severity of stuttering, along with administration of 4S. During phase 2 (following 10 sessions) informal conversational interaction to obtain therapy related information, re-administration of SSI-3, and 4S was included. Scoring was obtained according to the guidelines provided by the author in the original publication. Later on, various statistical procedures were performed to the obtained data, in order to obtain results with respect to overall stigma in PWS during pre and post therapy conditions, stigma across stuttering severity groups during pre and post therapy conditions, and finally to determine stigmatizing attitudes during pre and post therapy conditions vary in each stuttering severity groups.

It was found that, there was statistically significant difference in overall stigma in PWS from pre to post therapy conditions, this was also evident in each stigmatizing attitudes from pre to post therapy conditions when each stuttering severity groups were viewed individually. However, statistical significance was not evident across stuttering severity groups both in pre and post therapy conditions. The results obtained in terms of mean values showed that there was relatively better performance in all PWS during post therapy condition. Furthermore, all PWS exhibited relatively lower stigma level during post therapy condition when compared to their pre therapy condition.

To conclude, the results of the present study provide evidence for all the objectives taken for the study. Thus, it can be inferred that, the present scale utilized in the study "the 4S" is of utility to determine the hidden aspects/ stereotype present in PWS' and also plan the intervention accordingly considering the aspects obtained using 4S along with regular therapy program.

Clinical Implications of the study

- The 4S scale provides a different way of measuring hidden dimensions of stuttering disorder that are relevant to well-being and quality of life of PWS.
- The outcome of the current study will be relevant for Speech Language Pathologist/ researchers as it can be administered in a relatively brief period of time and can provide information about levels of stigma that a PWS experience, along with determining the need to counsel the client on certain stigma related issues about stuttering.
- It will be helpful in addressing activity limitations, participation restrictions, and barriers created by PWS.

- It is hoped that widespread use of this new tool will enhance the ability of clinicians and researchers knowledge base about the results of broad-based treatment approaches for stuttering and provide the opportunity for researchers to more appropriately evaluate the outcomes of treatments that address factors in addition to the observable aspects of a speaker's fluency.

Future Directions

- The study can be done with more number of participants in each severity group, which can help to obtain statistically significant and even better results, and thereby enhances generalization of results.
- The scale can be used to assess outcomes of each therapy technique individually.
- The scale can be administered on wider age range, especially on children with stuttering (CWS) to determine the initiation of stigma.
- The future studies may consider participants over 35 years to determine the relationship of duration of stuttering and aging factor.

Limitations

- Though the sample was equally distributed across severity groups, number of participants considered in each severity group (5 mild, 5 moderate, 5 severe) was limited.
- Only single test tool "4S" was utilized in the present study. Other supporting tools could have been used for better understanding of negative aspects of PWS.

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APPENDIX I

Demographic and Stuttering-Related Information (Pre and Post-therapy)

Name: **Age/ Gender:**

Case no.: **Contact no.:**

Address: **Education:**

Soci-economic Status:

Medical History:

Onset and Development of Stuttering:

1. Age of onset of stuttering:
2. Nature:
3. Early treatment:
   (If **Yes)** Duration and type of treatment obtained:
4. Variability (situation, language, individuals):
5. Relapse:
6. Possible cause (familial, environmental, psychological, unknown):
7. Family history of stuttering:

Associated Problems:

1. Any other associated problems other than stuttering since childhood: Yes / No
2. If any specify:

Fluency evaluation details: (Pre-Therapy)

Stuttering Severity Instrument (SSI):

Frequency:

Duration:

Physical concomitants:

Total score:

Severity:

Type of dysfluencies:

Secondary behaviours:

Belief about the future of your stuttering:

Importance of speaking fluently:

Fluency evaluation details: (Post therapy)

Stuttering Severity Instrument (SSI):

Frequency:

Duration:

Physical concomitants:

Total score:

Severity:

Type of dysfluencies:

Secondary behaviours:

Number of sessions attended:

Therapy technique(s) used:

Overall improvement seen after attending therapy (confidence, anxiety, attitude, satisfaction, etc):

Your opinion about therapy: