DEVELOPMENT OF ACTIVITY RESOURCE MANUAL FOR GROUP THERAPY IN CHILDREN WHO STUTTER

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A Dissertation Submitted in Part Fulfillment of Degree of

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September 2021

CERTIFICATE

This is to certify that this Dissertation entitled **"Development of Activity Resource Manual for Group Therapy in Children Who Stutter"** is bonafide work submitted in part fulfillment for the degree of Master of Science (Speech-Language Pathology) student with Registration Number 19SLP006. This has been carried out under the guidance of the faculty of this institute and has not been submitted earlier to any other University for the award of any other Diploma or Degree.

Mysuru

September, 2021

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DECLARATION

This is to certify that this Dissertation entitled **"Development of Activity Resource Manual for Group Therapy in Children Who Stutter"** is a result of my study under the guidance of Dr.Sangeetha Mahesh, Associate professor and Head, Department of Clinical Services, All India Institute of Speech and Hearing, Mysuru and has not been submitted earlier to any other University for the award of any other Diploma or Degree.

Mysuru **Registration No. 19SLP006**

September, 2021

DEDICATED TO MY

UPPA AND UMMA

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Chapter I

Introduction

Stuttering, also known as stammering, is a common speech issue caused by neural speech processing that often begins in a person's initial years of life (Brain & Onslow, 2011).

Speech disfluencies (stuttering) affect about 1.4 percent of children under the age of ten. Stuttering can affect people of any age, although it is most frequent in young children as they learn language and speaking. Around 80 percent of children with developmental stuttering will have a chance to resolve by their adulthood. Stuttering can take the form of repeated sounds, syllables, or phrases, as well as speech blocks or large gaps between sounds and words. Secondary behaviours associated with stuttering include eye blinking, jaw jerking, and head or other involuntary motions, in addition to these overt actions. These behavior are learnt strategies for reducing the intensity of the problem and it can add to the patient’s embarrassment and fear of speaking (Prasse, & Kikano, 2008).

Considering the prevalence of stuttering, it is common in children, with 3.0 to 5.0 percent of preschool-aged children stuttering and 0.7 to 1.0 percent of the general population (excluding preschool-aged children) stuttering, and the prevalence is consistent across socioeconomic, economic, cultural, and ethnic groups. Boys have a higher prevalence of stuttering than girls (Lawrence & Barkely, 2000).

The reason of stuttering is unknown at this time; however, brain imaging research shows that it is characterized by a difficulty with speech neural processing, which is linked to structural and functional abnormalities in brain areas responsible for speech. It's unclear whether these aberrations are a cause or an effect of the

illness because they've only been studied in school children and adults. Genetics or hereditary also plays a role in stuttering and there are clear evidence of vertical transmission within families. Monozygotic concordance is higher than dizygotic concordance, which accounts for approximately 70% of cases (Onslow & O'Brian, 2013).

Treatment of stuttering includes non-pharmacologic approaches, such as self-monitoring of speech to manage stuttering events and symptom reduction instead of elimination. The focus of treatment in children is to prevent the further progression of confirmed stuttering to adulthood. The involvement of family plays a major role in the management of stuttering especially in children mainly by providing an environment that encourages slow speech, affording the child time to talk, and modeling slowed and relaxed speech can help reduce stuttering events of the individuals. This will help not to worsen the problem and may comfort a frustrated child. The treatment stuttering in children focuses on the prevention or elimination of stuttering behaviors. Therapy is usually characterized by parental involvement and direct treatment. (Prasse, & Kikano, 2008).

Speech therapy addresses not only the mechanics of speech production, but also how speech is being used in interpersonal relationships. The use of the title 'group therapy' in therapy indicates that apart from individual therapy, there exist another form of therapy and there are differences between these two types of therapies. Individual therapy is defined as a two-person partnership in which one therapist interacts with one client. A configuration made consisting of the interactions of one therapist with multiple clients is known as group therapy. The configuration of a group structure allows for the possibility of interactions with peers as well as an authority figure. (Backus, 1952).

1.1 Need for the study

Other than physical speech disturbances, stuttering is linked to a variety of issues. Negative thoughts and emotions which are related to their own communication, negative stereotypes, prejudice, and discrimination, as well as victimization and bullying, are all examples.

Stuttering is associated with many problems other than physical speech disruptions. These include experiencing negative thoughts and emotions related to communication, being subjected to negative stereotypes, prejudice, and discrimination as well as victimization and bullying. Almost 60 percent of youngsters who stutter are bullied on a regular basis (Langevin & Narasimha, 2000). In a research by Hugh-Jones and Smith (1999), 75 percent of adults who stammer believed that bullying at school had influenced their academic work. Bullying can have a wide range of negative implications for children, including low self-esteem and feelings of loneliness, anxiety, and insecurity, as well as emotional, academic, and even physical challenges. These children may lose interest in attending school, resulting in scholastic difficulties, school failure, and school dropouts. Because of the high level of rejection encountered by classmates, children will have more trouble communicating with their peers, lowering their self-confidence. Bullying can intensify stuttering behaviour, encourage the use of avoidance techniques, enhance negative feelings and thoughts, and impede therapy progress, to name a few obstacles to long-term recovery (Murphy et al., 2007).

Thus, effective intervention is needed which aids in both facilitating fluency and reducing its psychosocial impact. A variety of techniques have been tried during the past few decades to facilitate fluent speech in rehabilitation programs for

children who stutter (CWS). Most of these programs have focused on individualized therapy with limited opportunities for CWS to interact in a group.

The focus of intervention for stuttering in children is to recover from the problem and to help them not to progress it further and to reduce the psychosocial impact that the children might develop. Since the CWS have their major issue is teasing and bullying from their peers apart from speech disfluencies. To ensure their success in therapy, speech-language pathologists may need to help their young students learn to deal with bullying situations. According to certain studies, many therapists are concerned with components of treatment that aren't immediately related to fluency change. Clinicians' reluctance to confront bullying in the therapy setting may stem from a lack of awareness about their role in treatment or a lack of confidence in their ability to do so. Hence, fluent speech achieved during the individual clinical situation is rarely maintained in beyond-clinic situations. For any successful treatment outcome and for fluency to be maintained, it is essential that these forces and are completely understood. Speech therapists are also unable to provide sufficient guidance in this regard owing to lack of resources, time, access and control over real-life situations (Tellis et al., 2008).

As a result, the goal of this study is to give therapists a comprehensive overview of therapy techniques for helping children overcome the negative consequences of bullying and preserve fluency in a variety of contexts. Group treatment program will support the CWS in facilitating change towards fluency and to gain confidence in a supportive environment and this will be carried out in a playful manner as the group play therapy seems to be particularly effective in improving interpersonal relations. While there is good reason to believe that group therapy can be an effective part of a therapeutic programme for school-aged

children, little is known about the nature of group therapy, and how the therapy can be done in a systematic way to achieve good outcome by providing an appropriate activities to carry out group therapy and thereby, the scope and character of this service, or how group therapy is delivered in practice (Liddle et al., 2011).

Moreover, therapeutic activities and resources should be provided according to the age and culture. It seems that there are no much literature on conducting a systematic activities for group therapy. Thus, a need to plan and implement this study was realized.

1.2 Aim of the study

The current research aims to develop an activity resource manual in English for group therapy in CWS.

1.3 Objectives of the study

1. Development of activity manual for group therapy in CWS within the age range of 3-12 years under 3 levels.

   Level 1: 3-5 years

   Level 2: 6-8 years

   Level 3:9-12 years
2. Development of digital resource manual for parent counselling group
3. Content validation of the developed manual using a standardized questionnaire.

Chapter II

Review of literature

2.1. Definition

The term “stuttering” (Gregory, 2004) definition:

“Overt behavior which include audible and visible features: these audible and visible features can be referred to as the different characteristics that can be seen in a disfluent speech behavior. It can include both quantitative as well as qualitative behaviors. More than 2 percent of atypical disfluencies in the speech, such as part word syllable repetitions, one- -syllable word disfluencies, repeated or prolonged sounds, and postures or blocks of the speech mechanism. There are other behaviors also which can be seen in associations with stuttering. This may include part word syllable repetitions, one- -syllable word disfluencies, repeated or prolonged sounds, and postures or blocks of the speech mechanism.

Covert behavior: covert behaviors refer to those behaviors which cannot be seen directly and will be more related to emotional and cognitive factors. This includes varying degree of frustration which is related to the stuttering problem and some avoidance behaviors such as avoiding speaking situation that can be seen more in older children and adults as they are aware of their problem and this is usually seen in associated with overt behaviors.

Possible etiologies: the stuttering to occur, there could be many possible factors that we call as etiologies. This includes genetic, psychological, and physiological and linguistics factors as well as characteristics of environment such as communicative and interpersonal stress”.

2.2. Characteristics of stuttering in children

The developmental stuttering is the common type that can be seen in individuals with stuttering. As the name suggest, the stuttering symptoms can be seen in children mainly during their development of speech and language skills. Van riper had classified the stuttering into four depending upon the age of the individual. The type of disfluencies, severity and other behaviors vary with respect to age, but can be seen as overlapping too. Van Ripers classification include:

2.2.1. Normal disfluency

Normal disfluency generally occur in between 2 to 5 years of life. The disfluencies such as repetitions, basically part word repetitions (eg:mi…milk), interjections(eg:he came to the...uh…church), revisions(eg:I found my.. where's daddy going?), prolongation(I'm tiiiiiiiiimy Thompson) and pauses(eg:can I get little more (lips together without sound)milk?) are commonly heard during this period. The disfluencies may range from seven per hundred words or can be even more in an average child with an age range of 2 – 3.5 years with a normally disfluent child. The disfluencies such as repetition will be more common in younger child and revisions are the commonly seen disfluencies in older children with normal disfluencies. The unit of disfluencies of these children will be one to two in each repetitions or interjections. The main difference of this kind of population is that these children are not aware of the disfluencies they have and thus, children will not show any kind of secondary behaviors such as escape of avoidance behavior and these children will not point any complaints on their own speech. There are different factors which underlie the normal disfluencies such as developmental and environmental factors. The development of language where in the child started to

use more complex sentences and the time and load required to produce these complex sentences would be more which will lead to a disfluent speech. The pragmatic conditions such as interrupting while talking, responding to someone's request or demand, developing social interactions are also could be some of the reasons. The development and maturation of speech motor control and the child's try to follow adult like speech utterances are also a factor in the occurrence of disfluencies in children. Apart from this, there are chances of having interpersonal stress associated with threats to security from events such as relocation, family breakup, or hospitalization and some of the daily ordinary pressure within the child such as competition and excitement while speaking.

2.1.2. Younger preschool children: borderline stuttering

This ranges between ages 2 to 3.5, which can be resemble as normal disfluencies. But it has several differences from a normal disfluent child. These children will have more disfluencies when compared to the other group. The disfluencies per 100 words will be more than 10, the units of repetitions will be more than two and the stuttering like disfluencies (SLDs by Yairi) are predominant. The SLDs include monosyllabic word repetitions, tense pauses and dysrhythmic phonation apart from within-word" disfluencies (i.e., part-word repetitions and audible as well as inaudible prolongations including blocks). The presence of very few secondary behaviors and little awareness can be seen such as presence of tension but usually don't exhibit other forms of secondary behaviors such as movement of extremities, concerned or embarrassment towards stuttering. In this stage, the stuttering events can be revert back to normal speech without any trace

of stuttering or can be increased and progress through levels of beginning, intermediate, and advanced stuttering.

2.2.3. Older preschool children: beginning stuttering

In older children, stuttering events will be more associated with tension and hurry than in younger children. The onset of this could be sudden from this age or evolved over a period of months or a year or two from borderline stuttering. The periods of stuttering associated with tension and struggle would be evident in these population. Rapid and irregular repetitions, hurries through repetitions, tension throughout speech mechanism, rise in vocal pitch, due to increased tension in the vocal folds, signs of blocks where in child stops the flow of air or voice at one or more places are some of the evident features which is present in this children. “Escape” behaviors, which are maneuvers used to end a stutter and finish a word. Head nodding, squinting eyes, or blinking as they try to push a word out. The feeling of frustration and doubtful for his own speech will be present.

2.2.4. School-age children: intermediate stuttering

Can be seen between ages 6 and 13 years. The presence of fear towards the stuttering and avoidance behavior in reaction to the fear of stuttering are the marked differences that can be seen in intermediate stuttering when compared to the beginning stuttering. The situational variation such as stuttering seems more in some situation and some words than other can also be seen in this stage and the degree of these characterizes will vary depending upon the listener. The notable core behavior is the presence of blocks along with other disfluencies such repetitions and prolongations. The behaviors to escape from these blocks and other

disfluencies can be seen and are evident in these children. This may include slapping legs apart from head nodding and eye blinking which were there in beginning stuttering. The avoidance behavior will include both situation and word avoidance in which the word he has more difficulty in speaking and the situation in which he feels to stutter more. This will include situations such as lunch time in school, meeting new people etc… feeling of embarrassment and frustration would be high than in beginning stage and children with intermediate stuttering will have a strong feeling of not being able to speak fluently and they will think themselves as a defective speaker (Guitar, 2013).

Oliver Bloodstien (1960) had given changes in nine basic features in associated with developmental stuttering, which is concerned with the changes that occur in stuttering as it progresses from a childhood occurrence to an adolescent and adult disorder. The author conducted research on 418 stutterers (336 boys and 82 girls). They ranged in age from two to sixteen years old and accounted for the vast majority of stuttering instances in this age group. The major findings were:

a. **Repetition**

Repetitions was observed in all ages but there is difference in the degree and type of repetitions in different ages. In younger children, repetitions are the most obvious sign of stuttering and include fairly deliberate and effortless repetitions, with more of monosyllabic repetitions and repetitions will be more in the beginning words in a phrase or sentence. In older population, the repetitions will be more in parts of speech such as articles, prepositions or conjunctions and there will be less of interjections.

b. Hard Contact and Prolongation

These consist of a tense or strong attack on a word or sound, spanning on a continuum of pressure signs that range from very brief to extremely long span of time, and can be noticed in people of all ages. It may or may not be the early symptom of stuttering.

c. Associated or 'Secondary' Symptoms

Can be observed more in older age groups. Some of the associated symptoms observed in kids were eye blinking, head jerking, forceful gasping, fist tightening, increased pausing, and 'doubling up' of the body were all observed.

d. Fluent Periods

The fluency disorder is almost always associated with a period of fluent speech along with stuttering which is common two to six years of age. These episodes can last days, weeks, months, or years, and the frequency with which they occur varies substantially.

e. Anticipation and Consistency

Generally, Anticipation and Consistency do not observe until the age of 8-9. It can be obvious with the older age group when the individual can comment about his stuttering.

f. Difficult Speech Situations

This is one of the typical feature of stuttering. Studies reported that it can be seen for all age group but mostly for older age groups. Inferred from parents' comments that during the early years, stuttering is not essentially a problem which revolves about speech situations in the same sense that it so often does later. For younger age groups, the difficult speech situation occurs generally with respect to the communicative stress situations such as when the child is excited or child explores or talks about something new whereas for older children, it is often clearly described the different situations such as in school or through telephonic conversation.

g. Substitution of words

With age, the use of circumlocutions and replacements to avoid difficult phrases becomes more common. When questioned, it was discovered that in the vast majority of cases, the decision to substitute was obviously taken after the youngster had begun to block on a difficult word. In most cases, substitution as a reaction to anticipate appears to be a late development.

2.3. Assessment of stuttering in children

The need for differential assessment procedure is very necessary as every children who shows fluency disorder will have a different profile and way of stuttering. The initial statement of caregiver regarding the child’s speech can be taken as the initial step of an assessment. Thus, assessment can be start with a

detailed history of the client, a client questionnaire, and professional reports. A case history is created by gathering and integrating information from a range of sources, including the initial interview, a client questionnaire, and professional reports, followed by a diagnostic interview followed by assessment of speech, language and motor skills, communicative and interpersonal stress, family history of stuttering, client attitudes, and referral for related consultation when needed. There are different factors which is associated with the child's stuttering. Client related variables and environmental related variables are the common factors. So, clinician needs to the factors if present which is responsible for the child's problem so that appropriate management options can be taken (Guitar, 2013).

Assessment regarding parental concern about the speech of their child is also very important as it will be a contributor to the child's disfluency. This initial interview also helps gain an understanding of parents' degree of concern regarding their child's stuttering (Bodur et al., 2019).

While doing assessment, clinician can also ask to describe about the child's speech and pattern of disfluency. Clinician can model a tensed, repetitive or prolonged speech pattern and can ask them which of these pattern have you been observed and the amount of variability and consistency in them. Information regarding the avoidance behaviour and other physical struggles is also need to be asked. Differentiating between normal, mild, and severe stuttering can aid in determining the next step of the evaluation as well as the type and degree of counselling that should be delivered. Speech-language pathologists can use subjective and objective tests to formally analyze speech. Formal tests include Stuttering Severity Instrument for Children. This tool is used to measure the frequency, type, and extent of stuttering, as well as to assess the overall rate of

speech, determine the presence of secondary problems, and indicate the need for therapy. Formal testing also involves an evaluation of the emotional well-being of both the parents and the kid, as well as their overall views regarding speech and the influence of stuttering on their quality of life (Prasse & Kikano, 2008).

As children get older, it is important to get their input on their stuttering. Clinician can use formal assessment tools such as the overall assessment of speakers experience with stuttering (OASES: Yaruss & Quesal; 2006) to assess emotions and thoughts related to stuttering. In addition to provide a severity level across different areas of impact, the OASES allows clinician to begin having discussions with the child on specific activities that the child may view as difficult as a person who stutters (Guitar, 2013).

2.4. Phonological disorders and encoding in children who stutter

According to research conducted by Bernstein Ratner (1995) and Conture et al. (1993), 30 percent to 40 percent of children who stutter also have a phonological impairment, whereas only 2% to 6% of non-stuttering children have a phonological disorder.

Phonological encoding is strongly tied to speech motor production. The process of phonological awareness, which is an individual's ability to detect, separate, and modify various-sized pieces of speech such as words, syllables, onsets/rimes, and individual phonemes, is one element of phonological encoding that can be observed. Once phonological awareness skills are formed, it is possible to explore the phonological encoding ability of young children who stutter as soon to the beginning of stuttering as possible. Phonological skills like as rhyming, sound matching, and phoneme blending develop early, with subsequent capabilities such

as phoneme segmentation, elision, and phoneme reversal coming later. Different studies done by Sasisekaran et al. (2013) revealed reduced performance of the children who stutter when compared to age matched children in different phonological tasks such as phoneme monitoring and rhyme monitoring tasks in single syllable words and non-words (Pelczarski & Yaruss, 2014).

2.5. Management of stuttering in children

The need for treating the childhood stuttering is very important so that it will prevent the children from developing stuttering into their adulthood and the recovery rate is as high as around 85% who begins to stutter during their childhood (Conture, 2001).

Therapy programmes must be multi-faceted in order to incorporate components of the client's real-world experience and general communication into the intervention. This may include improving and maintaining social communication skills in a variety of increasingly difficult speaking situations, identifying and challenging negative thoughts, assumptions, and emotions that may have developed around speaking (e.g., through Cognitive Behavioral Therapy (CBT), and developing coping skills and confidence, as well as the development of behavioural strategies to manage momentary situations (Caughter & Dunsmuir, 2017). When working with children that stutter, there are a few treatment goals that can be followed. The therapeutic goals aren't solely determined by the clinician. Clients and their families play a crucial role in determining which objectives are most important to them. Some of the treatment goals in stuttering includes:

Procedures to reduce the Frequency of Stuttering - which can be achieved through operant conditioning procedures for achieving the goal and typically

involve reinforcement for fluent speech. The rewards may be verbal, or tangible. There can be giving a mild punishment wherein the clinician may simply be giving attention to a stutter or requesting the client to try the word again. This goal is appropriate for all ages and levels of stuttering; note that for preschool children, the goal should be to reduce frequency of stuttering to essentially zero.

Procedures to reduce the abnormality of stuttering - much of the abnormality of stuttering comes from the conditioned tension and struggle behaviors that occur during moments of stuttering. It shows up as squeezing of facial muscles as the person is trying to say a word that is blocked. Reducing this tension and struggle is an important goal for school-age, adolescent, and adult clients. In addition, behaviors that occur before the stutter (avoidance) and behaviors that are deployed to terminate the stutter (escape) should be eliminated or at least greatly diminished. These include (1) avoidance behaviors such as the repetition of the sound "uh" before saying a word, and (2) escape behaviors such as eye blinks and head nods used to terminate a block. These are managed with simple reward and punishment technique and these approaches are collectively known as “stuttering modification technique”.

Procedures to reduce Negative Feelings about Stuttering and about Speaking - Many individuals who stutter are vulnerable to feelings of embarrassment, fear, shame, and other negative feelings associated with their stuttering. Classical conditioning plays a major role in this cycle. Therefore treatment strategies to deal with classically conditioned behaviors, such as deconditioning and counter conditioning, are crucial in treatment. One of the technique used for this is the voluntary stuttering. Introducing themselves in a public or in the stage will reduce the emotions related to stuttering when clients

learn to use techniques that reduce the frequency and abnormality of stuttering and then re-experience the situation repeatedly without embarrassment and fear.

Procedures to reduce Negative Thoughts and Attitudes about Stuttering and about Speaking – people who stutter may acquire negative self-concepts through repeated experiences of stuttering and perceiving sometimes correctly and sometimes incorrectly that listeners are impatient or disapproving. As these perceptions become more and more deeply ingrained, they begin to affect a stutterer's expectations in speaking situations. This can lead to more stuttering. If a stutterer expects rejection or disapproval, he may try very hard not to let the stuttering occur again. This can be corrected through Clients receive cognitive therapy to help them think and feel more favorably about their speech, listeners, and events that have previously triggered unpleasant feelings.

Procedure to reduce avoidance - Avoidance behaviors are evasive maneuvers taken by individuals to keep from stuttering. Sometimes they may occur very close in time to the expected stutter, such as saying "urn" or "well" just before attempting to say a feared word. Other times they may be quite separated in time from the expected stuttering, such as not volunteering to be in a school play or not ready for a phone conversation. Reducing avoidance is usually not the first treatment goal on the list, although it may be one of the most important goals for more advanced levels of stuttering. Treatment for avoidance should start with minimizing unpleasant feelings, especially worries of stuttering and the reactions of others. Procedures to Create an Environment that Facilitates Fluency - Preschool-age children, especially those on the borderline between normal disfluencies and stuttering, may need only a little change in their environments for their stuttering to disappear permanently. Treatment focuses on parents: counseling them to reduce

their anxieties, modeling for them, and continuing to support the changes they make. Parent-child interactions are probably the most important aspect of the environment that can be altered to help children learn to speak fluently. In some families, other aspects of the environment may need to be changed, such as the homes hurried pace of life, stressful life events, and the communication styles of other family members (Guitar, 2013).

2.5.1 Treatment approaches

Historically, there have been three treatment paradigms used with stuttering. Direct treatment, indirect treatment and a combination of direct and indirect treatment methods. In direct therapy, the therapist, parent, or kid identify instances of stuttering in order to assist the child in changing his or her speech language behaviour. Such identification of stuttering, as well as changes to stuttering behavior, may happen with or without clinician prompting or guidance. A direct approach where the listener, clinician or parents giving immediate feedback regarding the child's speech can also be consider as a direct treatment method. Conversely, without directly or openly identifying stuttering to the kid and or overtly seeking to improve the child's spoken language production, indirect treatment often involves making changes to the child's environment through parent teaching and clinician modelling. A combination or hybrid treatment approach could include identification and immediate feedback of the child's speech productions along with modification of the child's environment (Conture, 2001).

For children who are not aware of their disfluencies, caution should be taken in discussing their speech and how people react to it. Considerations needs to be given to the words used to discuss the child's speech and the gestures and

mannerisms displayed during the discussion, taking care not to use negative or pejorative words in reference to the child or his speech. The clinician works to educate them about their child's stuttering and to train them to work with the child in other setting. Many of the approaches used with children who are unaware of their stuttering can be applied to treating children who are aware of their stuttering, especially modifying environmental variables and treating concomitant problems. Additionally who is concerned about his stuttering will benefit from methods of managing these disfluencies more effectively and having someone to talk with about his speech (Rentschler, 2011).

Historically, there has been a division between fluency shaping and stuttering reduction approaches to treating stuttering (Blomgren et al., 2005). The first is referred to as stuttering modification. Stuttering modification is a method of treating the speech, emotional, and behavioural elements of stuttering that has been utilised for many years. There are four phases in this approach: identification, in which the client explores and analyses the overt and covert experiences related to stuttering to increase understanding and decrease fear of the disorder; to reduce avoidance strategies and adopt modified speaking skills, the client needs desensitisation to fluency disruptors, listener reactions, and the client's own negative reactions to stuttering. Stabilization, a plan for transferring and retaining abilities outside of the therapy session, and speech modification to control stuttering(Williams & Dugan, 2002).

Fluency shaping methods have primarily focused on teaching a stutterer how to speak more fluently. Fluency shaping therapy aims to use approaches to help the speaker develop a new speech output pattern that works within their speech

motor control abilities. Some methods concentrate primarily on modifying speech rate through the use of prolonged speech strategies. Other approaches combine one or more fluency enhancing strategies with speech pace (“stretched syllables,” “controlled rate”). Ancillary techniques include respiratory (“full breaths”), phonatory (“easy vocal onsets”), and articulatory targets (“light contacts,” “smooth changes,” “full articulatory movement”). Fluency shaping's ultimate goal is to have these approaches automatically applied in all speaking contexts. (Blomgren et al., 2005).

Fluency-initiating gestures

Cooper and Cooper (1985) taught kids fluency-initiating movements using cartoon characters. To teach kids a slow rate of speech, easy voice beginning, and easy transitions between sounds and words, fluency-initiating gestures were created. Children should learn to maintain continuous phonation while making light articulatory touches. According to Meyers and Woodford (1992), kids should learn to distinguish between smooth and bumpy speech before learning to create the smooth, continuous version.(Cooper & Cooper, 1995).

Lidcombe Program

The Lidcombe Program is a non-programmed, operant treatment for early stuttering that is provided by parents. In a series of articles, statistics on medium- and long-term outcomes, as well as social validity, have been presented. The parents and child attend the speech clinic once a week during the initial stage of the programme, and during these appointments, the parents are taught how to give

verbal response conditioned stimulation in the kid's regular surroundings. Intervals of stutter-free speech, which are applauded, and stuttered utterances, which are corrected, are the response classes in the treatment. Each week, parents report the degree of their child's stuttering using a 10-point severity rating scale in everyday speaking settings. When the child meets the following conditions, the second, or maintenance, stage of the programme begins: fewer than 1% syllables stuttered (1%) as measured by the speech-language pathologist during within-clinic conversations, two or fewer stuttered words per minute of speaking time (SMST) as measured by a parent during beyond-clinic conversations, and daily severity scores of 1 or 2 on the 10-point rating scale. (Jones et al., 2000).

Cognitive behavior therapy

The goal of the cognitive restructuring procedure is to change a person's unfavorable thoughts. Negative stuttering perceptions that appear to be psychological in origin, rather than physiological, anatomic, neurologic, biochemical, or any of the other explanations listed above, are recognized throughout this procedure. Because language is a complicated learned skill, a behavioural therapy that aims to change an individual's cognitive structure of speech is likely to be shorter and more helpful. Language disorders can be caused by a number of circumstances, one of which is a child's exposure to inappropriate language at home, which leads to the development of inappropriate language methods. The goal of behaviour therapy is to eliminate unhealthy learned behaviours and replace them with healthy ones. Because the purpose of behaviour therapy is to teach new behavioural patterns, it's no surprise that it's based on

behavioural learning theory. Conditioning, reinforcement, extinction, generalization, transfer, backward conditioning, negative reinforcement, and role modelling are all behavioural learning theory approaches utilized in behaviour therapy. (Koç, 2010).

2.5.2 Parents training

Parents are necessarily the core component of the therapy. To maximize their utility, clinician must educate them about their nature of stuttering, provide them with a model of stuttering, train them to become accurate, objective observers who can identify, monitor, and document aspects of the child's disfluencies, teach them how to modify speaking environments and develop a support team in the child's other communication environments, such as his classroom at school (Rentschler, 2011).

The parent child groups program is another example of current intervention in early childhood stuttering that places priority on improving home environment and interpersonal communication skills rather than on achieving perfect fluency. It has three foci: communication interaction, child and parent attitudes towards speech, and speech production behavior. Delivery is in the format of two small groups. One for children within a limited age range and one for their parents.

Differential strategies

One program that clearly attempts differential treatment based on the developmental status of the stuttering was offered by Gregory and Hill in 1984. The first strategy, preventive parent counselling is selected for the child who mostly

exhibit disfluencies typical of normally speaking children but parents are concerned. Parents receive counselling sessions concerning speech development and styles of communication and interaction that may increase or decrease disfluencies. The second strategy, prescriptive parent counseling is aimed at children with mild stuttering. In addition to the counseling, parents are taught to keep daily charts of the child's stuttering behaviors, awareness and reactions. This information is used in the counseling. The program includes sessions emphasizing modelling of easy relaxed speech. The third strategy, a comprehensive therapy program, is applied to children whose speech contain many stuttering instances and perhaps also concomitant disorders in speech, language and or behavior. This includes counselling and charting techniques employed in the first two strategies (Yairi et al, .2015).

2.5.3 Group therapy

Speech therapy has long been thought to include not only the mechanics of speech production, but also how people communicate with one another. There are difference between individual or a two person therapy and a group therapy. The configuration of a two-person structure involves solely the potential of contact between the client and the authority figure. The configuration of a group structure includes the possibility of interactions with peers as well as an authority figure. Anxiety, aggression, frustration, guilt; perceptions of self as weak, inferior to, or dependent on others; perceptions of other people and situations as threatening; defenses against these feelings are all considered to exist in some form in all human beings. To the extent that such conditions exist, they are regarded impediments to

progress in anyone. Being in a group with individuals who have various types of faulty speech can have a significant impact on reducing emotions of loneliness and inferiority. It should be emphasized, however, that the term 'group' in the literature on group therapy normally refers to a number of participants ranging from six to fifteen in practice, despite the fact that an optimal membership has yet to be determined empirically (Backus, 1952).

Studies have shown that CWS can develop negative attitudes toward their speech from a young age, which has serious repercussions for their mental well-being. School-aged CWS are frequently teased and bullied by their peers, and stuttering and anxiety disorders are frequently co-occurring in adolescence and adulthood. As a result, stuttering can have a detrimental influence on a child's communicative confidence and quality of life, contributing to parents' anxiety and having an impact on the family as a whole. (Caughter & Dunsmuir, 2017).

There are lot of advantages to have an intensive group therapy for speech disorders. Intensive group therapy is an excellent way to persuade a patient of his issues and demands. It's an excellent opportunity to show the Patient how to apply new speech patterns in everyday scenarios. Speech breakdown and relapse are prevalent problems among people with various types of impaired speech. (Backus & Dunn, 1947).

2.5.4. Group therapy in stuttering

For low-incidence illnesses, the group advantage is especially important. For example, stuttering affects approximately 7% of the population. That implies it's very likely that a person who stutters has never encountered another person his or her age who stutters. Children, in particular, are more likely to focus negatively

on their solitude and "uniqueness". Stuttering children are especially sensitive to feelings of loneliness, as they believe they are the only ones on the planet who are like them. Meeting another stuttering child can be a motivating experience (Rosenthal, 2004).

Rosenthal, (2004) had done a group therapy treatment for children who stutter and he reported that the teasing and bullying by peers have been addressed, and students have prepared action plans for how to respond if these situations arise. These skills were honed through role-playing, which was especially crucial for one of the boys who has a history of reacting violently to taunting. The majority of the children prepared and delivered stuttering speeches to their peers at their individual schools, first practicing them in groups. Finally, they improved their interviewing abilities by doing a series of interviews with people who stutter, in which they inquired about their childhood experiences. The children were involved in the creation and planning of these activities throughout.

A group setting provides an opportunities for a wide varieties of communication interactions clinician and child and child and his or her peers. Peer groups provide natural conversational communications, thus facilitating a seemingly ecologically appropriate form in the therapy. Furthermore, a group setting reduces the focus and stress on individual child to achieve phonological targets. In essence, the child group has two goals: (1) help the children change the speech production behaviors that inhibit fluency and increases those behaviors that facilitate fluency, and (2) help the children change those communicative interactive behaviors that inhibit fluency and those communicative interactive behaviors that facilitate fluency (Conture, 2001).

A survey conducted by Liddle et al., (2011) found some perceived barriers to group therapy provision. Some of them includes: Speech language therapists' (SLTs') confidence in conducting groups for CWS is low, and they lack the necessary skills and expertise to deliver group therapy for CWS. Staffing levels are insufficient to allow for the provision of group therapy for CWS, there is a lack of suitable accommodation for the provision of group therapy, SLTs' are not sufficiently competent in facilitating groups for CWS, and management support for the provision of group therapy for CWS is lacking.

Increased confidence, fluency skills, social/communication skills, and improved attitude about stuttering (e.g. desensitization), Problem-solving, peer support knowledge/education/empowerment, Cognitive abilities (CBT, cognitive therapy, positive thinking), Stuttering behaviour identification, modification of stuttering behaviour, and development of particular abilities (e.g. telephoning) are all goals of group treatment for school-aged children.

Yaruss and Quesal, (2007) in his study reported that Role-playing activity can help the child practice and gain confidence in different speaking situations. Role-playing has the advantage of allowing youngsters to try out alternative reactions in a safe environment and then rehearse them until they are confident enough to utilize them in real-life situations. The authors implemented activities of role playing with the activity name "Let's Make a Movie." The purpose of the movie-making project was to help children desensitize to curious comments about his stuttering and, more specifically, to teach them acceptable methods to respond to bullies. And the results revealed that the participant could respond appropriately to the bullying situation that had faced during school time and following therapy

sessions involving role-playing and the movie-making debut, children became less anxious about other children's criticisms about his speech.

In 2017, Caughter and Dunsmuir conducted a longitudinal study with children who had participated in intense group therapy for stuttering. The goal of the study was to see how beneficial a group intervention called CWS was in terms of clinical outcomes. Cognitive Change (using CBT and developing resilience with CWS), speech management skills, and social communication skills were included in this study in a series of graded steps (i.e. graded exposure of least to most anxiety provoking) in increasingly difficult social situations to enable CWS to communicate successfully regardless of speech fluency. The researchers looked at both qualitative and quantitative stuttering intervention measures. The findings revealed a significant change in emotional and cognitive aspects, which was a key component reported by participants in their change process, along with access to a positive support network, which was linked to a change in behaviour, such as reported increased communication and fluency, as well as participants' ability to recover from challenges (i.e. the capacity to be more resilient). The qualitative findings emphasize the importance of using an integrated approach in CWS therapy and the critical importance of addressing the cognitive and emotional aspects of stuttering, while the quantitative findings emphasize the importance of exploring and building resilience in CWS to support the development of adaptive coping skills and reduce vulnerability, which may help to maintain stuttering. They discovered that ‘being more vocal' about stuttering and the ‘shared experience' of being in a group with other CWS have both contributed to stuttering desensitization.

Speech & Language Therapists frequently prescribe group treatment for treating stuttering in school-aged children. In recent years, the use of evidence-

based interventions for stuttering in young children has expanded dramatically. Individuals tend to develop a poor self-image and a fear of stuttering by adolescence. When working with CWS, it is necessary to address and work on affective, behavioural, and cognitive responses to stuttering. According to evidence from psychotherapy literature, group techniques may be especially successful in addressing negative thoughts and feelings by removing the participant's sense of isolation and undermining his "heightened sense of uniqueness." In the case of group therapy, it aids in the reduction of children's fear about bullying by providing an opportunity for peer support, which has been recognized as a key factor in preventing victimization (Liddle et al., 2011).

A study done by Subramanian (2011) which aimed at improving student clinicians learning about a variety of direct and indirect strategies for working with fluency disorder population in different age groups. The study was adapted and modified from blended individual-group supervision (BIGS) model for clinical education in stuttering management given by Murphy and Watson (2004). The study consisted of 2 groups, and groups are created based on client age and/or time since onset of stuttering. The “younger” group (preschool fluency-1) includes children between 3 and 5 years of age who have exhibited stuttering for close to a year. This group had children as well as their parents and the sessions were divided into two separate sections. The second group consist of “older” group (preschool fluency-2) includes children between 5 and 6 years of age. They have experienced disfluencies for more than one year and appear to have persistent stuttering and here, the parental involvement and counselling is comparatively less. They found out that the modified BIGS approach helps student clinicians to learn about a variety

of direct and indirect strategies for working with different age groups and importance of parental involvement in treating CWS.

Luterman, (1991) suggests that there are two basic types of groups: therapy groups and counseling groups. Group meetings for clients with fluency disorders typically serve both functions. The group settings provide opportunities for enhancing as well as maintaining change in both the surface and intrinsic aspects of the syndrome. As the client adjusts to the roles and expectations of the group setting, he is more likely to become desensitized to stuttering in general as well as his own stuttering in particular. The group setting is also likely to be the only place where the speaker is permitted to stutter without being penalized
(Manning & Dilollo, 2017).

In general, therapy for stuttering should focus on improving speech fluency and reducing the negative attitudes, beliefs and coping methods. As stuttering is mainly a communication problem where the individual can be very fluent in some situations and face extreme difficulties in the other, PWS require intensive and extensive practice in transfer and generalization skills to overcome their long standing speech difficulties. Often during individual therapy sessions practice is given to establish fluency skills in the clinic set up with little opportunities for transfer and maintenance. Group therapy, in addition to individual therapy, has the added benefits of practicing the newly learnt fluency skills in front of a group, which help in group interaction and communication. It would make them aware of such problems in other individuals and thus lessen their sensitivity and improve motivation and confidence in handling their problems. Although the advantages of group therapy are known theoretically, there is dearth of literature, especially in the

Indian context, which focuses on the outcome of group therapy as against individual therapy alone.

Chapter III

Method

The present study aimed at developing an activity resource manual in English for group therapy in CWS. The specific objectives of the study included:

(a) Compilation of activities with appropriate images, animations and instructions for three age groups (3-5 years, 6-8 years and 9-12 years)

(b) Digital presentation of activities in a systematic way ranging from simple to complex

(c) Compilation of information for parent counselling with appropriate images

(d) Digital presentation of parent counselling manual in a systematic way

(e) Validation of developed manual by SLPs

The manual comprises several activities for the treatment of children who stutter in a group therapy setup. Includes diverge resources of pictures, videos to enhance the opportunity for speaking and to provide appropriate feedback to children who stutter. The manual also provides ease for identification and management of disfluencies among children who stutter.

The study was carried out in three phases.

Phase I:

Development of activities to be included in the activity manual for group therapy in CWS.

Phase II:

Development of digital resource material for counseling of parents of CWS

Phase III:

Validate the content present in the activity manual for group therapy in CWS and resource material for counseling of parents of children who stutter

3.1. Phase I: Activity manual for group therapy in CWS

The activities are listed out after a thorough review of existing literature and material from several sources such as textbooks, research publications, the internet, and different speech therapy activity sites such as boom cards. The diversity of the cultural perspectives and the importance of preparing relevant activities are also taken into consideration and the activities are prepared concerning the usefulness of the given activities for the Indian context. The prepared activities are for the age group of 3-12 years. Activities which are most appropriate to the child were selected. Several constraints such as age and complexity of activity were considered. Hence, activities are subdivided into 3 levels concerning different age groups;

Level 1: 3-5 years

Level 2: 6-8 years

Level 3: 9-12 years

The activities are also listed out in a hierarchical manner where it goes from simple, easy-going, and comprehendible activities to complex activities so that the children will get a flow while doing it and they will be motivated to follow the activities. The activity manual is prepared as a PowerPoint presentation with

appropriate pictures, videos, cartoon representations as well as descriptions taken from different resources such as the internet, books, and from other online organizations which are relevant.

3.2. Phase II: Digital resource Material for a parent counseling group

The resource material is developed mainly for the counseling purposes to parents of children who stutter. It emphasizes on a broad idea regarding the development of speech milestones and several aspects involved in different stuttering events along with a multidimensional model of stuttering. The prime aim of this resource material is to make the parents understand the possible behavioral modifications in children with stuttering due to the occurrence of dysfluencies. It provides several tips and important guidelines that the parents can follow along with the direct treatment to reduce stuttering events. The resource material is prepared using simple appropriate pictures, smart art, and simple words so that the clinician can make the points clear with the parents easily.

3.3. Phase III: Content validation of developed activity manual for group therapy and digital resource manual for counseling parents

This list of activities prepared for both the manuals is further given to three experienced Speech-Language Pathologists (SLPs) for content validation.

The content validation of the manual were done by giving the SLPs, the feedback form which was prepared as Manual for Adult Aphasia Treatment (Goswami et al, 2010). The questions were adapted from the original manual and which were relevant for this manual were taken for content validation.

These include:

3.3.1. **For phase I, the content validation was provided for the following parameters.**

- Simplicity – Whether stimuli used in manual is comprehendible?
- Familiarity – Whether images used in manual is familiar according to age groups?
- Size of the picture – Are the picture stimuli appropriate in size?
- Color and appearance - Are the picture stimuli appropriate in terms of color and dimension?
- Arrangement – Are the picture stimuli are within the field of an individual?
- Presentation – Are the number of pictures in each activity and age group placed appropriately?
- Volume – Is the overall manual appropriate in size?
- Relevancy - Whether the manual is relevant for age and culture?
- Complexity –Are the activities arranged in the increasing order of difficulty?
- Iconicity - does the picture used for carrying out the activities appear to be recognizable and representational?
- Accessibility - Is the test manual user friendly?
- Flexibility - Can the activities be easily modified?
- Trainability – Can the manual be used for conducting group therapy sessions for CWS?
- Stimulability – Does the activities elicit responses form CWS?
- Feasibility – Whether the manual capable of working successfully?

- Scope of practice – Is the manual within the professional's scope of practice for CWS?
- Publication, outcome and developers – Are you aware of any resource material in Indian context for group therapy in CWS?

3.3.2. **For phase II, the SLPs were informed to validate the manual developed for counselling purpose to parents of children who stutter on the following parameters.**

- Simplicity – Whether content and pictures used in manual is comprehendible?
- Familiarity – Whether images used in manual is familiar to the parental population?
- Size of the picture – Are the picture stimuli appropriate in size?
- Color and appearance - Are the picture stimuli appropriate in terms of color and dimension?
- Volume – Is the overall manual appropriate in size?
- Feasibility – Whether the manual capable of working successfully?
- Scope of practice – Is the manual within the professional's scope of practice for parents with CWS?
- Publication, outcome and developers – Are you aware of any resource material in Indian context for counseling parents in CWS?
- Relevancy – Is the manual relevant pertaining to the fluency disorder?
- Applicability – Can the manual be used in natural situation?

The responses are marked in a 5 point rating scale, where score 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = excellent.

The scores obtained from each of the SLPs were descriptively compared for phase I and phase II

Chapter IV

Results and Discussion

The study's primary aim was to prepare an activity manual for group therapy in children who stutter (CWS) for clinicians who work with children with fluency disorders and to prepare a digital counselling material for parents of CWS that will aid in better understanding for parents with regards to the different aspects of fluency disorders in children. The activity manual was prepared with the purpose of conducting a systematic way of group therapy for children with different age group and for conducting a detailed counselling for parents of children who stutter.

4.1 phase I*:* Development of activity manual for group therapy in CWS – pre final phase

Total of 12 activities were taken from simple to complex manner for phase 1 of the study. These activities were executed with use of pictures, GIFs and smart arts wherever necessary. Total of 165 pictures and 7 GIFs were taken from different sources such as Google, Pinterest, and online sites such as boom cards, and other speech therapy worksheets online sites. The activities are divided into three levels; level 1 include age range of 3-5 years, level 2 includes age range of 6-8 years and level 3 includes age range of 9-12 years. All the activities and 3 levels were included in a single manual. Each of the pictures were taken appropriate to the age of the child and the culture and the manual is in English. The activities were listed out in the manual starting with modelling the fluent speech, and ends with sharing the most embarrassing situation for the children with stuttering to take their negative attitudes towards stuttering out.

a) Modeling

For modeling activity, initially the clinician will introduce a picture of car which is moving in a straight road, then through roads contain blocks and other barriers. After that for better understanding, therapist will show a smooth and slow speech, with the help of a moving car smoothly on a road that doesn't have any pits, blocks or other interruptions. Along with this, clinician can model a smooth fluent speech by telling a word or phrase along with the GIF of moving car in the manual. It will help the child to understand how the smoothly moving car is related to a fluent speech. In contrast to make the child understand speech with disfluencies, another GIF which depicts a moving car in a rough road which has pits and other blocks are introduced and along with that clinician can also introduce words or phrases which has disfluencies. This will make the child understand the difference between a smooth and a disfluent speech and the child will be able to get a visual representation of the fluent speech and disfluent speech. Here, clinician can refer the pictures and speech which depicts fluent speech as smooth and the speech and pictures which depicts disfluencies can be referred to as bumpy speech. Later, once the child can differentiate between smooth and bumpy speech, clinician will give activities based on this. Clinician will speak few words with and without disfluencies and the child will be given pictures of a smooth and a bumpy road. Child has to say which all words are smooth and which all are bumpy. If the child has difficulty in differentiating, clinician is advised to help the child with reference to the picture and the GIF which was provided initially. The modelling activity can be done for all the age groups.

b) Rules for better speech

Clinician will explain some basic rules which can aid to a fluent speech and can help them taking these rules as their habit while speaking. This will help the children to get out from a quick disfluent speech and will help them for a good start while speaking. The basic thing to understand in this that the clinician can be the good speech model for the child. Clinician can demonstrate the rules and may ask the children to follow them.

The **first rule** introduced in the manual is taking a **deep breath before speaking**. The picture of a girl taking a deep breath is included and the clinician will demonstrate how to take a deep breath and start of the word. Here, the clinician also demonstrate taking a deep breath and exhale it a little and then speak. This activity focus on having the child breathe in, let air out slowly, speak on the outward flow of air, and keep air moving throughout the phrase. While demonstrating the activity, clinician will use the given picture in the manual as a reference and will carry out the activity.

Second rule is the **light articulatory contact**. Here, in manual, it is referred to as relaxing the speech helpers. A picture which introduces the organs needed to produce the speech. Clinician will be instruct the child to touch these speech helpers very lightly and make them relaxed. Clinician can explain the tension that can experience at the level of speech helpers and importance of relaxing these structures. It is important to teach this concept by having the child think of things that touch "lightly" and "softly," such as leaves falling to the ground, a butterfly landing on a flower, or clapping the hands lightly. Clinician can also make the child understand the difference between a light touch and tensed speech.

The **third rule** given in the manual is the **easy start or stretching**. Clinician will be ask the child to prolong and say each word. The aim of this rule is to prolong the production of vowels and transition from vowel to consonants should be slow. Clinician will give different sentences to speak in a stretched speech and clinician will provide feedback when the child follow the stretched speech and will make the child observe the difference in the speech fluency while the child does stretched speech.

Reducing the rate of speech is the **fourth rule** in rules for better speech. Clinician will introduce a picture which has both rabbit and tortoise and the clinician will ask "which moves slowly and which moves fast". Clinician will provide feedback of the speed in which the tortoise and the turtle moves and clinician will describe about the need of reducing rate of speech and speak in very slow rate to enhance the fluency. Clinician will also introduce moving GIFs of some animals such as turtle and elephant which moves slowly and deer and tiger which moves fast so that the children will get visual cues on the rate of movement. Similarly, clinician can also describe the rate of speech in which the clinician will speak in a slow and a fast rate and will ask the child which speech depicts slow and which depicts fast rate. Activities to find out the slow and fast rate is also given in the module and can be tried once children understood the concept of slow and fast rate. Clinician will also suggest the children to reduce the speech as much as how the turtle moves. Once the children get the slow pace of speech in their conversation, clinician can introduce the optimum rate of speech, where the children should speak in neither too fast nor too slow. Clinician can do activities to find out the correct pace using a visual speedometer for better understanding.

The **gentle start or easy onset** of phonation is the **fifth rule** where the clinician will ask the child to introduce a /h/ sound before the target word. For younger age, clinician

will instruct the child to say syllables containing sound /h/ in the initial position. This will also include pictures of the target words so that the children can understand it better. The group of children who can read the monosyllabic words will be asked to read the words one by one starting with the target sound /h/. For older children, different words will be introduced and will be asked to say the words with an initial /h/ sound for each of them. Later, a picture of a skater board with two arrows are included in the manual and child can make skateboard move and the first arrow indicates to breath in and then to stretch it and speak the word out with the initial /h/ sound in it. Similarly, clinician make several words with pictures like this and can make the child speak in easy onset.

Sixth rule is to make the children understand **"pausing and phrasing"** between words while speaking. This is done for reducing the rate of speech and useful for older children who can read the words. Children will be shown a paragraph to read there will be an indication of 'stop' sign to stop or to pause in between. Children should follow the stop sign while reading, pause the words and then continue.

c) Choral reading

Choral reading is another activity used in the manual that can be used in group therapy for children who stutter. This can be done under 3 levels based on their complexity of activity. For children who are younger age of 3-5 years, concrete pictures that the child can understand and name are included. The pictures which are daily seen by the children of their age in this culture are used to carry out for this age. Manual has a set of pictures such as naming body parts, family members etc...Level 2 includes pictures of some verbs such as eating, sleeping and set of phrases which include monosyllabic words and pictures.

In this stage, both the monosyllabic words along with the pictures are included in a simple to complex manner considering the age of this level as the children with younger age range cannot read multisyllabic or complex words. For level 3, where older children are included, written sentences are included. To increase the complexity, the sentence length will increase accordingly and at the end of this activity, reading passages are included.

d) Vocabulary building

This activity is similar to picture description where in children will be given pictures and will be asked to describe about it. For children of level 1, simple pictures are included where the children can describe in simple sentences such as picture of kittens drinking milk, a girl helping the mother and later to increase the complexity, pictures to describe good habits, pictures of daily routines are included. Later on for level 2, manual includes little complex picture when compared to the other level such as picture of a park, story sequencing are added and for the older children, in level 3, little more complex pictures are added such as picture of a family celebrating Christmas, pictures of making a tea, and other different cycles of pictures such as life cycle of a butterfly are included. If the children are not building enough of sentences or desired vocabularies, clinician can ask questions about given pictures.

e) Role play

Role play is an activity where the clinician will inform children to take up different role by making a scenario in the session and children should enact a conversation with that particular role. There will be different roles for the children to speak with and it will move from simple role playing activity while using familiar characters to complex role. The initial activity will be a role play with the mother, where the clinician will be the mother and child will have a conversation with the mother, including simple conversation between the two. Similarly, other roles such as role of a sibling, role of friend, and teacher is also included for level 1. Dialogues for appropriate roles are given for each and children and clinician have to say the dialogues provided. For level 2 and 3, roles such as speaking with a group of friends, with a waiter in restaurant, speaking with a shop keeper are included. Telephonic conversation is also included as an activity in the role play which is targeted to reduce the fear of talking with others using phone. The child will be asked to pretend calling to someone over telephone. The child's responses and the expected responses from the other side is prepared in the manual and the child and the clinician will take up the dialogues for telephonic conversation. The contents included in the telephonic conversations were talking with an aunt or friend's mother, talking with grandparents, and talking with a teacher about the progress in studies. The three situations included in the telephonic conversations are different and the conversation with the teacher would be the most difficult situation. Hence, the hierarchy with regard to difficulty is maintained in this activity.

f) Giving directions

Different kinds of giving directions are included in the activity. Clinician will be asked the children to guide a stranger with appropriate directions to reach a specific location. The activity will start with a simple request by the clinician on how to make a lemon juice and the children will be guiding the clinician in making the juice by giving appropriate directions such as taking the ingredients and explaining how to make the juice. Later on, clinician will be asking to explain different directions to reach specific places such as finding nearest hospital, to reach nearest post office and nearby ATM. Clinician will be the stranger here asking for the direction for different places and child has to give appropriate direction so that the clinician will reach to the desired places.

g) Group story telling

Story with different characters are made in the manual and each character will be taken up by the children. Each character will have specific dialogues related to characters and voice over is given wherever necessary. The story is of a group of animals with a morel "friend in need is a friend indeed". In this story, one of their friend gets trapped inside the net of a hunter and how other friends help him to save from the hunter. Clinician will be monitoring the characters and will instruct how to enact the characters in the story. If needed, clinician also can be one of the character in the story with the children to get better idea of how to enact the characters present in the given story.

h) Talk show

Talk show is another activity where in child can talk related to particular topic. Here, different kinds of topic are included for different age groups. For children with younger age group, simple topics are given in the manual and as age progress, the difficult topics to talk are included. For level 1, topics such as to talk about the family, talk about their favourite toy, about the hobbies and favourite food are included. For level 2, little difficult topics such as talking about the country and child's memory of his/her best trip they had gone recently are included. For level 3, topics such as types of transportation, plastic waste management, nuclear versus joint family system and talk about COVID 19 pandemic are also included. Child will be encouraged to speak freely on given topic.

i) Activities to improve phonological encoding

To work on phonological encoding, activities to improve rhyming, sound matching, and phoneme blending are included. To improve rhyming skills, a picture of a particular word is introduced, word with picture that rhymes do not rhyme to the target word are also included. Clinician will ask the children to point to say the word which rhymes to the target word.

To work on sound matching, different pictures are included in the manual and under each picture, different sounds are written and clinician will ask the child to say which sound matches to the initial sound of the particular word. For eg: the picture of 'LAMP' will be introduced and under that, sounds such as /l/, /p/, /h/ will be given, child has to point or to say /l/ as the correct sound for the initial sound of the particular word.

Phoneme blending is carried out by taking a picture, cutting into different parts and each part will contain a phoneme or syllable. Clinician will say each part separately and will ask the child to combine it and tell the word. For example, clinician will take a word 'banana' and the will cut the picture of 'banana' into 3 equal halves, and will take one half for /ba/, then /na/ and /na/ again. Further, Clinician the child is instructed to say all the syllables together to form the word 'banana'.

j) Self-introduction

These activities are placed towards the end of manual where each child will go in the therapy room and will be asked to introduce themselves and about their family, school etc… in front of others. During this activity, clinician will inform the child to explain about his stuttering, his types of disfluencies and his fear towards stuttering if any. This is done to make child fearless about their stuttering, to reduce anxiety and embarrassment related to stuttering. Clinician will make the child to start activity by asking the question: "how do you feel when someone makes fun of your speech?" after the self-introduction.

k) Most embarrassing situation

This is considered as a continuation for the previous activity where the children will be asked to share the different negative experiences received from different people in their daily life and further, children will be encouraged to discuss and relate their fears, feelings, attitudes, frustrations, and ideas. The experiences related to the bullying by their peers will be discussed as the manual is mainly focusing on children. Clinician will guide and provide appropriate instructions to react to these situations.

Above are the activities were pre – finalized by the investigator to conduct group therapy treatment for children who stutter

4.2 Digital resource manual for Parent counseling – Pre final phase

For parent counselling manual, total of 70 pictures were used and the manual included activities , tips and some do's and don'ts written and explained in a very simple uncomplicated way that the parents who have CWS from different background can understand easily. The manual begins with a simple description of speech production mechanism. The picture of a speech production mechanism is included and clinician will briefly explain the different systems included for the production of speech. Manual also contains brief description of definition and signs of stuttering as well as stuttering onset in children. Specific details included in the manual are as follows.

a) Describing multidimensional nature of stuttering

The multidimensional nature of stuttering is introduced under the title 'different aspects associated with the stuttering'. CALMS model of stuttering is included and description of different aspects such as cognitive, affective, linguistic, motor and social are explained with appropriate examples and pictures wherever necessary. It also describes in detail what happens with each of these aspects and how stuttering occurs because of these aspects. This section also includes description of various areas where the child will have an impact because of stuttering such as in academics, social and other peer relationships and how the stuttering severity varies according to the listener and according to the situation. This is described with the help of appropriate pictures.

b) Do's and Don'ts for parents

The Do's and Don'ts's in the manual will help the parents to understand what all things they have to follow and what all things they should and should not follow in order to get child a fluent speech. The don'ts are described first and this includes bucket analogy where clinician describes about the child's fluent speech as a bucket full of water and extra water added to the bucket will be the stressors and the water will overflow and that can be considered as the stuttering speech. Clinician will be describing about the different environmental stresses that the child can have and can contribute to the child's stuttering and the difference between external demands and child's internal capacity. This will be explained by the demand capacity model. Different tips to avoid fluency demanding conditions will be explained and the iceberg phenomena associated with stuttering is also included. Understanding normal fluency and the instances where the child can have normal fluency, changing attitude towards the child and creating a positive environment to the child, reducing fluency demands, rate of speech and reducing time pressure will be included under section "Do's". Parents will be instructed to make sure that one speaks at a time and everyone gets a turn, emphasizing concept of turn taking. Sometimes the speaker can hold a special object designating that it's their turn to speak and when finished speaking, the object is passed to the next speaker for his turn. This reduces the pressure of trying to break into the conversation and goes long way toward diminishing his fear of

being interrupted or passed by when wishing to communicate. These activities will be described by the clinician using the pictures and key words included in the manual.

c) Role of parents

The role of parents are included in the manual with the title of responsibilities as parents. This included different activities that the parents should do to reduce the child's stuttering. Setting special interaction time with child is the first responsibility included in it and clinician will explain why this is important for child's fluent speech and how can they implement this task. The importance of giving attention to their child and need for these activities will be highlighted by the clinician. Activities to reduce child's emotional disturbances and feelings of anxiety is the another task that the parents should focus. Clinician will explain why this is important for child's fluent speech and how can they execute this task also. Clinician will guide the parent to make their child express their feeling in their own way. Parents can assist their children in finding words to convey their emotions by modelling their own usage of those words. When a child struggles to speak and quits up, he or she tells an adult, ""I can't say it," the adult can say, acknowledging the child's challenges with phrases like "That was a difficult one for you." Mommy has a hard time speaking at times as well "After that, you must wait for the child to continue. These reflections should be genuine, not forced or stereotypical. It is critical that kids understand that they are accepted and cherished regardless of their ability to communicate.

Above are the information were pre – finalized by the investigator to conduct counselling for parents of children who stutter.

4.3 Phase II: Content validation of both the manuals

Quantitative validation

Three speech-language pathologists (SLPs) rated the developed manual as a part of phase I and II based on the feedback questionnaire adapted from Manual for Adult Aphasia Treatment (Goswami et al, 2010).

Table 1

Ratings of SLPs for activity manual to conduct group therapy in CWS

Sl No.	Parameters	Very poor	Poor	Fair	Good	Excellent
1	Simplicity				3	
2	Familiarity				2	1
3	Size of the picture				2	1
4	Color and appearance			1	1	1
5	Arrangement			2	1	
6	Presentation			2	1	
7	Volume			1	2	
8	Relevancy			2	1	
9	Complexity			1	1	1
10	Iconicity			1	2	
11	Accessibility				2	1
12	Flexibility				2	1
13	Trainability			2	1	
14	Stimulability				3	
15	Feasibility				2	1
16	Scope of practice				2	1
17	Publication, outcome and developers	Yes (nil)		No 3		

From Table 1, it is evident that one professional rated “excellent” for familiarity, size of the picture, color and appearance, complexity, accessibility, flexibility, feasibility and scope of practice,

Three judges rated the manual as “good” for Simplicity, and stimulability. Two SLPs rated “good” for familiarity, size of the picture, volume of the manual, iconicity, accessibility, flexibility, feasibility and scope of practice. One SLP rated as “good” for parameters such as color and appearance, arrangement, presentation, relevancy, complexity and trainability.

Two SLPs rated “fair” for the parameters such as arrangement, presentation, relevancy and trainability. One judge rated “fair” for color and appearance, volume, complexity and iconicity. All the three judges are not aware of any publication, outcome and developers related to group therapy.

Table 2

Ratings of SLPs for digital resource manual for parental counselling.

Sl No.	Parameters	Very poor	Poor	Fair	Good	Excellent
1	Simplicity					3
2	Familiarity				2	1
3	Size of the picture			1	1	1
4	Color and appearance			1	2	
5	Volume			2	1	
6	Feasibility				2	1
7	Scope of practice				1	2
8	Publication, outcome and developers	Yes 1			No 2	
9	Relevancy			1	2	
10	Applicability			2	1	

From table 2, it is evident that three judges rated the manual as “excellent” for simplicity. Two judges rated “excellent” for the scope of practice parameter. One judge rated the parameters such as familiarity, size of the picture and feasibility as “excellent”. Two judges rated as “good” for the parameters familiarity, color and appearance, feasibility and relevancy. One judge had rated size of the picture, volume, scope of practice and applicability as “good”. Two SLPs rated volume and applicability as “fair” and one judge

rated “fair” for the parameters such as size of the picture, color and appearance, and relevancy. Two judges are not aware of any other publication, outcome and developers and one judge is aware and the judge commented that the SLP is aware of the parent counselling material that is available at fluency department, AIISH as a part of pamphlet, hardcopy.

Consequently, it can be stated that this manual including group therapy activities for CWS and digital manual for parent counseling received grading that was excellent, good or fair from most of the raters. Most of the parameters were adjusted to be “good” by majority of the professionals. Therefore, the speech-language pathologists were of the opinion that this manual can be used effectively on children with stuttering in group set up and for parental counseling who have CWS.

Qualitative validation

Three speech-language pathologists (SLPs) rated the pre finalized activity manual for group therapy and digital resource manual for parents. Different comments regarding the content of the manual by three judges are provided in detail as below:

SLP 1: First SLP instructed to segregate the group therapy manual and to remake it into three different manuals according to the three levels (level 1, level 2 and level 3). Judge had also commented to re arrange the activities in which, the information regarding rules for better speech will be coming as the first activity, and to include modelling the smooth speech under rules. For children to carry out activities in the session, the first activity will be the introduction of each child present in the group therapy and finally the manual will end with the activity to discuss about child’s speech. Some of the activities, such as discussing about child’s speech and pausing and rephrasing were asked to exclude for

younger age groups, considering the age of the children, and the cognitive demands needed to carry out and follow the activity. Names of activities such as activities for vocabulary building and most embarrassing situation has changed to “picture description” and “lets discuss about your speech” respectively.

SLP 2: The second judge provided comments for the manual activities regarding the age of the child and cultural appropriateness. The judge instructed to add more pictures for gentle start, and to include activities for both audible /h/ and for inaudible /h/. SLP also given comments to include more pictures for group storytelling, talk show and role play and also exclude some activities in different levels which are not age and culture appropriate.

SLP 3: The third SLP had given comments mainly to change the pictures which were not of good clarity and quality, to change the pictures which are not appropriate to the Indian culture and to add names for persons, food items and other categories which are used in Indian culture, to rephrase the questions given for the children in the activities and the instructions given for each of the activity. Further, judge had commented to modify fonts, font size and the use of different words appropriate to Indian context in the manual.

Regarding the digital manual for parent counseling, SLPs provided comments regarding the overall organization of the material and stated the need of well-organized material for easy understanding. Another comment regarding the counseling was the volume of the content. SLPs stated that the material is little too lengthy and there are chances that the parents may lose their interest to listen for a long time. Hence, SLPs advised to reduce the content and to remove the points which feels repetitive. The SLPs

also commented to add myths and facts related to stuttering and famous personalities who have or had stuttering.

4.4. Phase III: Finalized activity manual and digital resource manual

Final manual was prepared after the qualitative and quantitative content validation by three experienced SLPs. The changes and suggestions given by the judges have incorporated for the final preparation. The changes made are mentioned in detail in the next phase. The sample of information provided in the activity manual for group therapy is included in appendix-1 and the sample of information provided in the digital counselling manual for parents of CWS is included in appendix-2. Finalized digital manual are provided in DVD in for files.

4.4.1. Finalized activity manual for group therapy in CWS

Manual 1: level 1 – age range 3-5 years. Specific activity included are as follows:

(a) Rules for better speech – which includes description of rules such as taking deep breath, relaxing speech helpers, easy starts/stretching, slow rate, modeling smooth speech.

(b) Activity 1: Self-introduction. Children have to introduce themselves in front of other peers in the group

(c) Activity 2: Modeling. Clinician will give a smooth card and a bumpy card and will say words (with or without dysfluencies) and child has to listen to the words and show the correct card from the two.

(d) Activity 3: Rate of Speech. Clinician will give audio clips of fast and slow rate. Child has to respond or point to the card which has the picture of a rabbit if the speech is faster and has to point to the card which has turtle if the speech is slower.

(e) Activity 4: Choral reading. Children has to name the given pictures together followed by the clinician. Pictures of alphabets, and other pictures which can be identified by this age are included.

(f) Activity 5: Picture description. 5 different scenes are included in this activity for this age range. Clinician will ask simple questions related to the scene and children shall describe the pictures by answering to these questions.

(g) Activity 6: Role play. Four roles are given in this. Children will be asked to enact the given roles with the help of the clinician.

(h) Activity 7: Group storytelling. Children will be encouraged to tell the stories which may or may not be known to them. Pictures of three simple stories have been included for this activity and clinician should present the story picture ne by one to carry out this activity. Clinician can help them by narrating the story if the children find difficulty in comprehending the story using pictures.

(i) Activity 8: Talk show. Four topics are included for talk show in level 1. These topics can be easily identified by this age group. Children have to pick one of their interest and to talk about it.

Manual 2: Level 2: age range 6-8 years. Specific activities included are as follows:

(a) Rules for better speech – which includes description of rules such as taking deep breath, relaxing speech helpers, easy starts/stretching, slow rate, modeling smooth speech.

(b) Activity 1: Self-introduction. Children have to introduce themselves in front of other peers in the group

(c) Activity 2: Modeling. Clinician will give a smooth card and a bumpy card and will say words (with or without dysfluencies) and child has to listen to the words and show the correct card from the two.

(d) Activity 3: Rate of Speech. Clinician will give audio clips of fast, slow rate and normal rate of speech. Child has to respond point to the card which has the picture of a rabbit if the speech is faster and has to point to the card which has turtle if the speech is slower. After recognizing the slow and fast speech, child had to identify the normal rate of speech. Picture card with a cat will be introduced along with rabbit and turtle and will repeat the activity by giving audio clips of slow, fast and normal rate of speech.

(e) Activity 4: Gentle start. Children will be showed combination of different vowels with a /h/ in initial. Clinician will ask the child to read those words. Along with that, different words with audible /h/ initially and with inaudible /h/ initially will be given and will be asked the child to read those words with the help of appropriate pictures that are included in the manual.

(f) Activity 5: Activities to improve phonological encoding. The skills such as rhyming, sound matching and blending are included in the manual. Clinician should use the pictures included in the manual and has to carry out the activities.

(g) Activity 6: Choral reading. Children has to name the given pictures together followed by the clinician. Pictures of different verbs are included. After that, children are asked to read the monosyllabic words and short phrases along with the help of pictures included in the manual.

(h) Activity 7: Picture description. 5 different scenes with key words that has to be elicited from the children are included. Clinician will ask simple questions related to the scene and children shall describe the pictures by answering to these questions.

(i) Activity 8: Role play. 5 different roles are included. Children are asked to enact these roles and are instructed to carry out these roles along with the dialogues that are provided in the manual.

(j) Activity 9: Group story telling. Children will be encouraged to tell the stories which may or may not be known to them. Pictures of three simple stories have been included for this activity and clinician should present the story picture by one to carry out this activity. Clinician can help them by narrating the story if the children find difficulty in comprehending the story using pictures.

(k) Activity 10: Talk show. Three topics are included for talk show in level 2. These topics can be easily identified by this age group. Children have to pick one of their interest and to talk about it.

Manual 3: Level 3: age range 9-12 years. Specific activities included are as follows:

(a) Rules for better speech – which includes description of rules such as taking deep breath, relaxing speech helpers, easy starts/stretching, slow rate, modeling smooth speech.

(b) Activity 1: Self-introduction. Children have to introduce themselves in front of other peers in the group

(c) Activity 2: Modeling. Clinician will give a smooth card and a bumpy card and will say words (with or without dysfluencies) and child has to listen to the words and show the correct card from the two.

(d) Activity 3: Rate of Speech. Clinician will give audio clips of fast, slow rate and normal rate of speech. Child has to respond point to the card which has the picture of a rabbit if the speech is faster and has to point to the card which has turtle if the speech is slower. After recognizing the slow and fast speech, child had to identify the normal rate of speech. Picture card with a cat will be introduced along with rabbit and turtle as well as a picture card of speedometer mentioning slow, fast and normal rate are included. Clinician will repeat the activity by giving audio clips of slow, fast and normal rate of speech.

(e) Activity 4: Gentle start. Children will be showed combination of different vowels with a /h/ in initial. Clinician will ask the child to read those words. Along with that, different words and phrases with audible /h/ initially and with inaudible /h/ initially will be given and will be asked the child to read those

words and phrases with the help of appropriate pictures that are included in the manual.

(f) Activity 5: Pausing and phrasing. Clinician will give some sentences and a passage with a sign mark to stop/pause in it. Children are asked to read by using the visual cue provided.

(g) Activity 6: Activities to improve phonological encoding. The skills such as rhyming, sound matching and blending are included in the manual. Clinician should use the pictures included in the manual and has to carry out the activities.

(h) Activity 7: Choral reading. Children will be asked to read the phrases, sentences, and passages given in the manual.

(i) Activity 8: Picture description. 10 different pictures are included. Clinician will ask questions related to the scene and children shall describe the pictures by answering to these questions.

(j) Activity 9: Role play. 5 different roles are included. Children are asked to enact these roles and are instructed to carry out these roles along with the dialogues that are provided in the manual.

(k) Activity 10: Giving directions. Different scenarios of asking directions by a stranger have included in the manual. Children will be asked to provide direction for these places with the help of the written dialogues included in the manual.

(l) Activity 11: Group story telling. Story of 4 animals is included. Children will be asked to take up each role and to enact these roles with the help of dialogues provided.

(m) Activity 12: Talk show. Four topics are included for talk show in level 3. These topics can be easily identified and talked by this age group. Children have to pick one of their interest and to talk about it.

(n) Activity 13: Let's discuss about your speech. Children can talk about their stuttering in this activity. Clinician will ask the children some questions about how they feel about their speech, experience of bullying and the fear related to their stuttering. Children will be encouraged to share the experience related to their speech difficulty. Clinician will provide some tips to react to these situations also.

Final manual was again given for content validation by the same three SLPs and all the parameters which was rated as "fair" changed to "good" and "excellent" for both activity manual for group therapy and digital resource manual for counselling parents.

The activities included in the group therapy manual for CWS have particular reasons and strong evidences for treatment of fluency disorders in the particular age groups. The hierarchy of increasing difficulty according to the age group is maintained throughout the manual. This is important to accomplish retention of modelled cues and enable success in generalization of easy relaxed speech responses. Generalization and transfer is accomplished most effectively by systematically progressing through hierarchies of responses such as utterance length, meaningfulness and easy to harder situations (Gregory, 2003).

Manual starts with modelling a fluent speech, because modelling is considered as a very powerful clinician tool particularly with children. Clinician can use modelling to set the tone and pace of therapy. Clinician should "say it and show it" when comes to

modelling the fluent speech for CWS. For treating CWS, modelling "slow speech" alone is not the ultimate goal. Rather, the desired outcome is more relaxed speech with an easy approach to initiation and smooth transition with natural inflection and normal rate for the child (Gregory, 2003). For this purpose, manual introduced smooth and bumpy speech concept. It is important not to use negative labels for features of the child's speech for fear of the child becoming more concerned about his speech. These bumpy and smooth speech are not used to indicate that these are good or bad, but merely a description that distinguish between the two forms of speaking. The clinician or parent expresses their preferences for one over the other, but, neither is correct nor wrong. Thus the child will be reinforced for his smooth speech and sometimes requests to remake his bumpy speech into smooth speech (Rentschler, 2011).

Rules for better speech is adapted from the fluency rule program (Runyan & Runyan, 1993, 1999), a stuttering treatment program for preschool and early grade school children who stutter. This program is divided into three section; universal rule, primary and secondary rules (Conture, 2001). These rules can be stated as building habit of getting ready for speaking. This will help in combating the quickness some children demonstrates while talking and helps them get off to a good start (Rentschler, 2011).

Taking deep breath which is included as the first rule in Rules for better speech serves to stretch and relax the muscles of respiration and the musculature in the larynx. The reduction in muscle tension better facilitates the initiation of speech. The process is further promoted by focusing on beginning the utterance gently. It also assist in slowing the pace of speaking. The tendency to rush an utterance is impeded by needing to postpone starting until half of the breath has been exhaled. Previous research has connected stress and anxiety

to shallow and fast breathing, which obstructs airflow to the speech process. As a result, stuttering therapies have been created to help people who stutter relax, control their breathing, and improve their proprioception. Breath manipulation is an important part of fluency shaping methods. Components concentrating on continuous airflow and pausing (Craig, 2010), diaphragmatic breathing and coordination of phonation and breathing (Allen, 2007), and synchronization of articulation movement with continuous airflow have all been used in recent therapies (Monteagudo et al., 2017).

Relaxing the speech helpers or relaxation is the other rule included as children who show persisting audible or visible tension related to their stuttering or general bodily tension may require more specific approaches to reduce tension levels and develop increased readiness for matching the clinician s model cues for easier, more relaxed speech production. The overall objective of relaxation activity is to facilitate readiness for observing and experiencing more relaxed speech (Gregory, 2003)

Easy starts focus on speaking at the level of beginning of a sentence/words. This point in the speaking process requires the most coordination and is the most complex part of producing speech. There is a split second when respiration turns from inhalation to exhalation, the vocal cords come together, and the process of articulating a long string of sounds is started, all within an extremely short period of time. When they are nervous or try to hurry the initiation of speech, children who stutter frequently seem to mis coordinate or in some other way mishandle this motor act. To help this child change this instinctive behavior, his attention is focused on slowly and gradually beginning phonation; almost like stretching the first sound. Using stretched not only slows the rate of speech, but focus more of the child's attention toward speaking in a volitional rather than automatic way. Easy

start allow speakers to use pausing and phrasing to change the tempo of their speech while also employing light contacts at the beginnings of phrases to relieve tension. For some children, this combination approach may be difficult. It may also assist them in maintaining a more natural feel to their speech, as the change is more subtle than ubiquitous timing or stress reduction (Yaruss, 2010)

The rule for reducing rate of speech is the widely and extensively used speech rule in treating CWS. It allows CWS additional time to monitor their speech for the presence of repetitions or prolongations. For CWS with more advanced stuttering characterized by blockages of airflow and voicing, this rule allows more time to develop self-monitoring skills necessary for the acquisition of the physiological skills required for fluent speech productions. Apart from this, a slow rate of speech has an overall calming effect on the child as well as on various speaking partners which conductive to fluent speech development (Conture, 2001). The rhythmic speech and prolonged speech are some of the treatment techniques that have been used to reduce disfluency. One widely cited explanation for the effectiveness of these methods are that both involve slowing down. There is considerable anecdotal and empirical support for the suggestion that reducing speech rates has an ameliorative effect on stuttering (Packman et al., 2000).

Because the words, lexicon, and concepts are already represented in the text to be read, reading is often a less taxing mode of oral communication than speaking. There are, however, some exceptions. Some clients struggle with reading, which exacerbates the disfluencies in their oral reading. Reading activities or materials that are skill appropriate should be used sparingly in these situations. Written materials, on the other hand, eliminate the client's use of avoidance methods. In reading, replacing words for those that are likely

to be stammered on is considerably easier to detect than in spontaneous speech. Reading, on the other hand, is a good place to start for the majority of clients. Reading can also be utilized to find and analyses disfluencies, as well as to help students meet their speaking goals. Reading the same passage aloud with another reader, a technique known as chorus reading, can help people reduce their stuttering. To put it another way, some stutterers find it simpler to talk more fluently when they are accompanied by another person reading the same content (Rentschler, 2011; Ingham, 2006).

For clients who are reluctant to speak, the clinician should not ask questions which can be answered by "yes" or "no". A picture description task may be more effective strategy in letting him to talk. Learning to become a better conservationist is yet another goal in therapy. The length of this task will be expanded correspond with the client's rate of success. (Tumanova & Backus, 2019).

Role playing activities are acting out of real life situations facilitated by group treatment sessions. The exercises can be useful in helping the speaker reconsider especially negative experiences associated with past fluency failure and experiment with various coping responses for future anxiety-provoking situations. Role playing activities by the group lend themselves to create and often humorous responses to the situation. Participants are free to experiment with role reversals, alternately taking on the personality of different characters in the exchanges. Role pay activities will be helpful for responding to various bullying and teasing activities from the peers (Manning, 2017).

Telephonic conversation is included next as clients who stutter commonly fear speaking on the phone. Many express the concern that all the attention is focused because the listener can't see them and doesn't know what is going on. This attention increases the

client's fear and tension, which usually increases their stuttering. Another significant issue in using the phone is the time it takes the client initiate his speech. Listener can be impatient if the speaker takes too long to start the conversation. This time pressure typically is very difficult for people who stutter and usually serves to precipitate stuttering blocks. thus telephone calls often begins with desensitization tasks as the client become less fearful and better able to initiate voice, continue practice will result in smoother, softer initiation of speech, attention needs to be focused on the changes made to the normal , fluent speaking process while practicing phone calls (James et al.,1999; Lee et al., 1976).

Giving direction to someone is another important activity that should be included in the group therapy for children who stutter. People are commonly asked directions by strangers needing assistance finding their way in an area unfamiliar to them. In real life, the task offers several challenges inherent in being asked to provide directions. The request usually comes by surprise and from a complete stranger also the client will need to think of the best route from the current location to reach desired location and some landmarks along the way. Thus practicing this in therapy sessions will prepare the clients to respond to those situations properly in their real life (Glasner & Dahl, 1952).

Story telling activities aims at client use targets during a spontaneous speaking situation. This activity encourages imagination and creativity, each of which increases the cognitive demands of the task (Gardner, 1993). The need for a talk show is to promote target use and practice making; asking and answering questions and carrying on a conversation with someone else while using speech targets (Rentschler, 2011).

Children who are aware of their stuttering usually have feelings about it. For some, it makes them frustrated, and angry; for others it's embarrassing or just make them feel bad

thus make them attempts not to stutter. These attempts commonly take the form of speaking quickly and using more muscular effort to talk. So, working to manage these emotions can serve to reduce the muscle tension that results, resulting in more natural fluency. Talking about stuttering with the child helps him feel less alone and begins to build a support team to help him out. Children also can give a talk about stuttering to their classmates to help them understand stuttering. This frequently reduces the amount of teasing and ridicule once the topic of stuttering comes out in the open and other understand it better (Franken et al., 2005; Gottwald & Hall, 2003)

4.4.2. **Finalized digital resource manual for parent counseling. The details of the content are as follows:**

a) The material has a brief description of speech mechanism and how the speech is produced. Clinician will explain in detail with the help of the picture included in the material.
b) Information on stuttering, signs of stuttering, onset and the ice berg analogy of stuttering is provided with image
c) Myths and facts related to stuttering are discussed
d) Explanation is given on how the stuttering is related to thoughts, emotions and word usage
e) Explained the different types of disfluencies, variation in stuttering, and the probable causes of stuttering
f) Explained about different Don'ts and Do's the parents can follow while speaking with CWS

g) Explained the details of famous personalities who have or had stuttering

The responsibility as therapists to educate parents about stuttering is particularly important in the overall treatment progress. The information regarding what is stuttering, signs of stuttering, onset and myths and facts related to stuttering is included in the manual because historically stuttering has been the subject of incredible misconceptions, many of which continue today. Knowing what is stuttering and what is not is important. Not knowing what to believe and what not to believe, parents naturally are perplexed and confused. Providing informational materials and discussing a model of stuttering helps parents better evaluate new information and formulate their own beliefs about their child's stuttering (Gottwald & Starkweather, 1995; Cook & Rustin, 1997)

Understanding the different types of disfluencies, duration and frequency and other instances of normal disfluencies are also included and manual provides information on stuttering with specific to particular sound, word or situation. This is because, it is important to develop a more objective attitudes toward stuttering, which results in the ability to discuss it with more emotional detachment. Focusing their attention on concrete, discrete behaviors helps to reduce parental fears and anxiety as their thoughts are being drawn to more objective aspects of the disorder (Gottwald & Starkweather, 1995)

Reducing the rate of speech of the family members, avoiding fluency demanding conditions and too much complex sentences and giving time pressure are also included in the manual because family home environment can be rushed and somewhat chaotic. Many homes are fast paced and the rate of speech at home reflects it. These factors are controllable to a degree, but it may best serve the child who stutters to create "relaxed

zones" where there is a slower pace, softer speaking voices, more structure and more individualized attention (Ratner, 1992; Stephenson & Ratner, 1988).

A study of preschool CWS and children who do not stutter (CWNS), reported that utterances above a child's mean length of utterance contained disfluencies (stuttering like disfluencies (SLDs) in CWS and non - SLDs in CWNS more frequently than utterances that were shorter or utterances that were approximate to the child's mean length of utterances. Such finding supports that changes in length and complexity during conversational speech may change children's speech language planning and production that support to speech fluency. A child who continually tries to match the length and complexity of an adult's speech language output rather than his or her own language ability is likely to have more disruption in the forward flow of speech (Conture, 2001)

The need of setting up a special time for CWS is included in the manual with the idea of creating a speaking environment similar to that of natural environment that is home. This requires a good deal of discipline and effort to establish on the part of parents. This family set up of story time or game time can relax unwind and can create a calm environment for interaction (Millard et al., 2008; Yaruss et al., 2006).

The need for including famous personalities who had/have stuttering does also gain prime importance. The concerns of parents of children who stutter commonly reflect anxiety about the child being ridiculed and being made to feel different in an undesirable way. Many anxieties and concerns are only aggravated when honest, objective information is not provided. Coping can only begin to take place once the truth of a situation is known. Providing a portrait of realistic outcome can be accomplished by enabling parents to

contact parents of other clients, becoming part of a support group, and even identifying adults who have succeeded in life despite their stuttering (Rentschler, 2011).

Chapter V

Summary and conclusion

The study aimed to develop an activity resource manual for group therapy in children who stutter and a digital resource manual for counselling the parents of children who stutter. The developed manual was validated both qualitatively and quantitatively by three speech language pathologists.

The manual was prepared before pre finalizing it and was given for content validation. Based on the content validation results and the comments obtained from the given judges, the final manual was prepared. The final developed manual after validation comprised of various activities to conduct group therapy for children who stutter.

Various activities to be conducted in group therapy included brief information on how to follow speech rules for fluent speech, activities on modeling fluent speech, to reduce the rate of speech, to improve speaking skills during choral reading, picture description, role playing, giving directions, talk show, and storytelling, to improve phonological encoding skills in children and to reduce fear and embarrassment related to stuttering in children.

The finalized developed resource material for the purpose of counselling parents of children who stutter after validation included brief introduction of speech mechanism and stuttering, myths and facts related to stuttering, Do's and Don'ts for parents of children who stutter and information on famous personalities who stutter.

The manual for group therapy and counselling group were made with the aim of providing a resource guidance for the clinician in order to carry out group therapy activities

in a more systematic way. Further, the clinician can follow a proper hierarchy so that the children who are attending the therapy will get better generalization as they exhibit difficulty in speaking with strangers or in a group as well as generalizing the acquired skill in the real life situation. This manual will also help in improving the clinical skills while providing group therapy and thereby improve service delivery in stuttering rehabilitation. The digital manual for counselling parents will provide much information regarding the fluency disorder that their children exhibit and it also aim in improving the counselling skills of the clinician by incorporating all the points that should be included while counselling the parents of CWS.

To conclude, this manual has been developed as a training supplement and as a rehabilitation aid. We hope that this manual is used extensively by the clinicians in stuttering rehabilitation, and paves a new path in group therapy rehabilitation and for counselling the parents of CWS.

5.1 Implications of the study

Following are the benefits to the clinicians:

- It is one of the first activity manual developed at AIISH for group therapy in stuttering management for children who stutter in English
- There are separate manuals for three age groups, 3-5 years, 6-8 years, and 9-12 years. This will help the clinician in selecting appropriate activities pertaining to the age of the child ranging from 3 to 12 years.
- The manual has brief instruction on how to carry out the activities which would be useful for the clinician while using the manual in a systematic way

- The counselling material can be used by the clinicians for conducting counselling to groups for parents of CWS
- The information provided in the counselling manual is simple, user friendly and systematic. Hence, will aid in improving couselling skill of the clinicians
- It will aid in delivering better therapeutic services in stuttering management in a group set up

Following are the benefits to the children and parents of children who stutter:

- Children who are attending the group therapy will have added benefits of getting chance to communicate with peers supporting each other
- This will help their communication and speech with better fluency
- Children will not find difficulty in carrying out the activities as the included activities are appropriate to the age and culture of the child as well as the manual is maintaining the hierarchy of complexity where the activities would range from very simple to complex
- Pictures and animations are provided for various activities which will assist in better learning, understanding, and practice in every speaking task.
- The information which is included in the counselling material are very much needed while raising a child with stuttering and these information are explained in a brief and simple way

5.2 Limitations of the study

- Technical support such as laptop or computer system is needed to use this manual

- Developed manual is provided in English. Hence, it cannot be used for group of children with other languages
- Images and animations for the manual are taken from a variety of online sources and hence are not original, and are stated acknowledgement in the appropriate locations.

5.3 Future directions

- For each of the activities, more examples can be provided to aid better exercises for the participants in the group
- Similar manual can be developed in other Indian languages
- For improving the clarity of the images provided in the manual, original pictures can be taken up or drawn accordingly wherever necessary
- Few detailed success stories can be added in the counselling manual to motivate the parents of children who stutter
- Field testing of the module can be taken up to check for efficacy.

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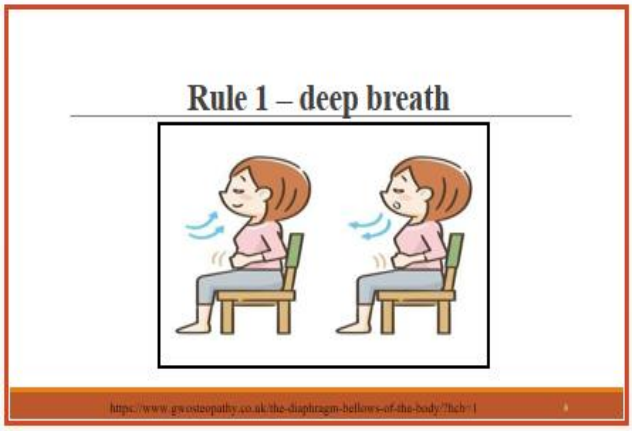
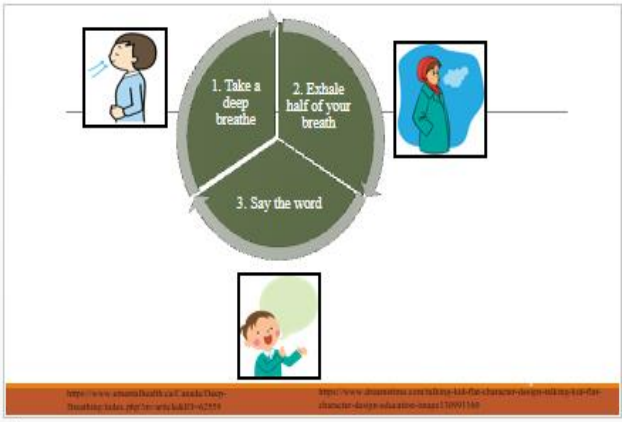
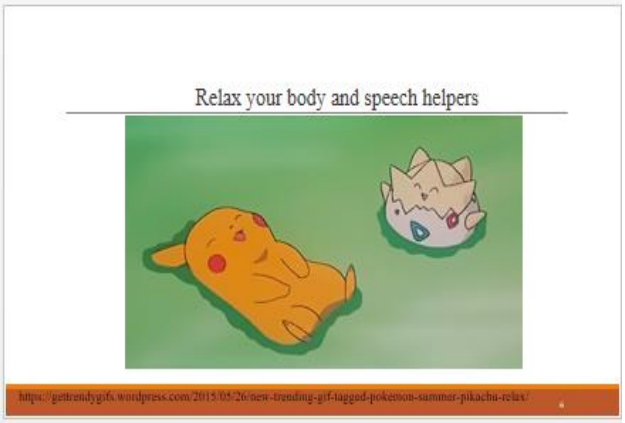
Appendix 1

Sample activity for group therapy manual

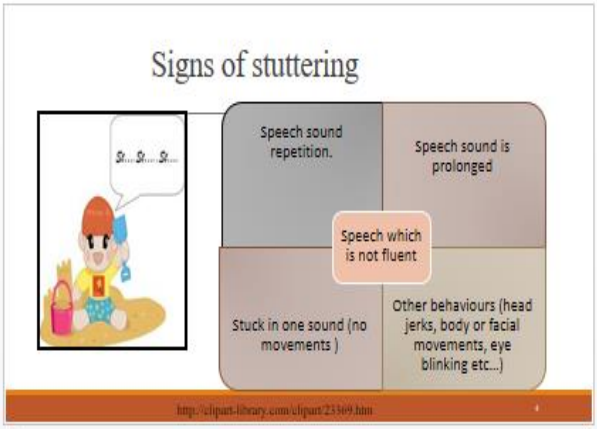


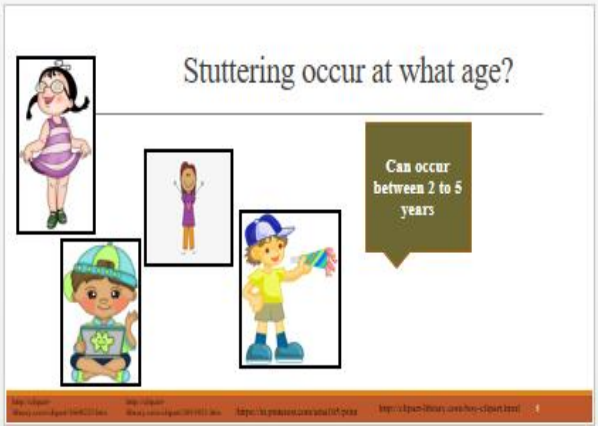


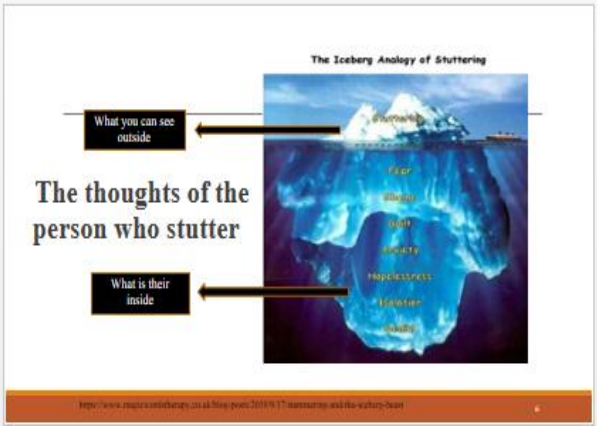


Appendix-2

Sample activity for digital counselling manual







Appendix-3

Content validation form for group therapy manual

Sl No.	Parameters	Very poor	Poor	Fair	Good	Excellent
1	Simplicity – Whether stimuli used in manual is comprehendible?					
2	Familiarity – Whether images used in manual is familiar according to age groups?					
3	Size of the picture – Are the picture stimuli appropriate in size?					
4	Color and appearance - Are the picture stimuli appropriate in terms of color and dimension?					
5	Arrangement – Are the picture stimuli are within the field of an individual?					

6	Presentation – Are the number of pictures in each activity and age group placed appropriately?					
7	Volume – Is the overall manual appropriate in size?					
8	Relevancy - Whether the manual is relevant for age and culture?					
9	Complexity – Are the activities arranged in the increasing order of difficulty?					
10	Iconicity - does the picture used for carrying out the activities appear to be recognizable and representational?					
11	Accessibility - Is the test manual user friendly?					
12	Flexibility - Can the activities be easily modified?					

13	Trainability – Can the manual be used for conducting group therapy sessions for CWS?					
14	Stimulability – Does the activities elicit responses form CWS?					
15	Feasibility – Whether the manual is capable of working successfully?					
16	Scope of practice – Is the manual within the professional's scope of practice for CWS?					
17	Publication, outcome and developers – Are you aware of any resource material in the Indian context for group therapy in CWS?	Yes		No		

Appendix-4

Content validation form for digital resource manual for parent counselling

Sl No.	Parameters	Very poor	Poor	Fair	Good	Excellent
1	Simplicity – Whether content and pictures used in manuals are comprehendible?					
2	Familiarity – Whether images used in manuals are familiar to the parental population?					
3	Size of the picture – Are the picture stimuli appropriate in size?					
4	Color and appearance - Are the picture stimuli appropriate in terms of color and dimension?					
5	Volume – Is the overall manual appropriate in size?					

6	Feasibility – Whether the manual is capable of working successfully?					
7	Scope of practice – Is the manual within the professional's scope of practice for parents with CWS?					
8	Publication, outcome and developers – Are you aware of any resource material in Indian context for counseling parents in CWS?	Yes		No		
9	Relevancy – Is the manual relevant pertaining to the specified disorder					
10	Applicability – Can the manual be used in a natural situation?					