

**PARENTAL READINESS AND PREFERENCE FOR DELIVERING
LIDCOMBE PROGRAM AND RESPONSE COST TREATMENTS IN
AN INDIAN CONTEXT: A QUALITATIVE STUDY**

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CERTIFICATE

This is to certify that this dissertation entitled "**Parental Readiness and Preference for delivering Lidcombe program and Response cost treatment in an Indian context- A Qualitative study**" is a bonafide work submitted as part of fulfilment of the degree of Master of Science Speech Language Pathology of the student with Registration Number P01II24S123009. This has been carried out under the guidance of a faculty of this institute and has not been submitted earlier to any other university for the award of any other Diploma or Degree.

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This is to certify that this dissertation entitled "**Parental Readiness and Preference for delivering Lidcombe program and Response cost treatment in an Indian context- A Qualitative study** " has been prepared under my supervision and guidance. It is also being certified that this dissertation has not been submitted earlier to any other university for the award of any other Diploma or Degree.

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DECLARATION

This is to certify that this dissertation entitled "**Parental Readiness and Preference for delivering Lidcombe program and Response cost treatment in an Indian context- A Qualitative study** " is the result of my own study under the guidance of Dr. Santosh M., Professor of Speech Sciences, 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.

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Chapter 1

Introduction

Stuttering is a speech disorder characterized by repetition of sounds, syllables, or words; prolongation of sounds; and interruptions in speech known as blocks or broken words. (World Health Organisation, 2015). In most children, the onset of stuttering occurs during the initial years of life shortly after language development begins. Further, it is also reported that the incidence of stuttering is around 5% for preschool-aged children (Lewis et al., 2008). Beginning between the ages of two and four years, stuttering can have a cumulative incidence of up to 11% by the time a child is four years old (Reilly et al., 2013).

CWS may experience severe consequences due to this complicated communication impairment (Brignell et al., 2021a). Stuttering can significantly impact one who stutters and those around him/her, which may affect young children's psychological, emotional and social well-being (Langevion et al., 2010). A survey of 77 parents of CWS was done in Australia, which reported that children experience frustration with stuttering, social withdrawal, reduced verbal output, and comments on the inability to talk (Langevin et al., 2010b). They also felt affected, leading to emotional distress, worry, self-blame, and frustration. Hence, treating stuttering at a preschool age is essential to reduce its impact on social life. If stuttering remains unresolved by an adolescent, it may have a lifelong impact, including on education, social relationships, employment, and well-being (Iverach et al., 2009). Adolescents and adults who stutter have persistent psychological difficulties (Erickson & Block, 2013). Overall, there is a need for early intervention, as the effectiveness of treatment is greater during the preschool age. Further, evidence from literature suggests that responsiveness to treatment decreases as age increases (Packman et al., 2003).

Several treatments are available for preschool-age children, which may reduce stuttering severity and negative attitudes towards communication (Brignell et al., 2021a). Treatment approaches like the Lidcombe Program (Brignell et al., 2021a), the Westmed Program (Trajkovski et al., 2011), Response Cost (Seth & Maruthy, 2020a), Mini-KIDS (Leclercq et al., 2024), the RESTART Demands and Capacities Model Method (RESTART-DCM) (Brignell et al., 2021a), Palin Parent Child Interaction (PCI) (Van Eerdenbrugh et al., 2023), and early childhood stuttering therapy are found to be effective in treating stuttering in preschool children. Among all the available treatment approaches, the Lidcombe program is one of the most popular and effective approaches for early stuttering (Harrison et al., 2004). Studies showed that the Lidcombe program is more efficacious than natural recovery (Onslow et al., 2012) and achieves zero stuttering level in the prescribed time frame (Kingston et al., 2003). A meta-analysis done on the Lidcombe Program, which had combined four Randomized Control Trials (RCTs), found an odds ratio of 7.5 for reducing stuttering to less than 1% of syllables stuttered (%SS) than the control (Onslow & O'Brian, 2013).

The Lidcombe Program is a behavioural treatment for children's stuttered speech, which parents implement. During Stage 1, the parent and child visit the clinic weekly, where a Speech-Language Pathologist (SLP) guides the parent's delivery of the treatment. During the visit, a qualified SLP trains parents to conduct the treatment in a structured situation and during natural conversation. Parents or caregivers deliver treatment in the presence of a qualified SLP. The SLP also trains parents to give verbal contingencies for stutter-free speech and to measure the severity of stuttering. The "parent verbal contingencies (PVC)" refers to when parents comment on the child's stutter-free and stuttered speech. Among five verbal contingencies, three verbal contingencies for stutter-free speech include praise, a request for self-evaluation, or acknowledge whereas request for self-correction or acknowledge for unambiguous stuttering. PVCs are always used in a positive manner, provided at least once a day during a structured

conversation of 15 minutes duration, where the parent initially structures the conversation to reduce the frequency of stuttered words. During the clinical session, the SLP observes the parent conducting the session with the child each week. The SLP demonstrates any necessary changes required for the following week and tracks whether the parent practices them during the practice session before using them at home.

Parents also use a 10-point severity rating scale (1= no stuttering, 10= extremely severe stuttering) to measure children's stuttering at home. Parents record severity ratings daily to reflect the children's typical speech. As a child receives a severity rating of 0 or 1 with at least four ratings of 1 and at least one rating of less than 1% SS for three consecutive clinical visits, the child progresses to stage 2 of the program, which is the maintenance stage.

During stage 2, PVC and clinic visits are reduced, provided that low stuttering criteria continue to be met in unstructured, everyday conversations. Stage 2 continues until the child has sustained treatment goals for around a year. Subsequently, in stage 2, parents are advised to contact a clinician if any relapse occurs that they cannot manage effectively.

The Lidcombe approach is different from other approaches, as the primary role of SLP is not to provide therapy but to teach parents to implement the treatment in the child's everyday environment. This places a greater responsibility on parents to provide the correct treatment. The concerns were raised when the Lidcombe program was first introduced; it is important that it could have negative consequences for children involved (Cook & Rustin, 1997). However (Woods et al., 2002) found no change in parent-child attachment and improvement in the child's behaviour (Woods et al, 2002) as noted during the Lidcombe program, concluding it as a safe treatment. The SLP is responsible for checking whether parents deliver treatment correctly and safely. Safety checks include ensuring that the experience is positive for the child. Correctness checks include ensuring their ability to identify stuttered or stutter-free speech and

provide correct PVCs to the child. Hence, SLP depends on parent report and within-clinic demonstration to check treatment delivery. However, a study of the Australian SLP community found that 51% did not routinely check treatment delivery during clinical visits (O'Brien et.al., 2009). Also, they have scheduled sessions that are shorter and less frequent than the program manual recommends, reducing SLPs' capacity to perform these checks. These make it even more challenging to understand the effectiveness with which parents deliver the treatment in the extra-clinical settings. Parent delivery of the program has been reported via questionnaire (Packman, Hansen, & Herland, 2007) and in-depth qualitative interviews (Goodhue et al., 2010), where the majority of parents found a positive experience of children and themselves. Packman et al. (2007) reported that 11-17% of participants found difficulty in administering the PVCs, and 31% had difficulty while maintaining the recommended feedback ratio for stutter and stutter-free speech. In Goodhue et al. 2010 study, mothers reported difficulty in several aspects of program delivery, including finding moments of stutter-free speech, giving appropriate praise, and modifying question types to structure the child's conversation appropriately.

Need for the study

The Lidcombe Program has shown promising results in different cultural contexts. Studies from Mainland China and Malaysia reported reduced stuttering without requiring cultural adaptation (Vong et al., 2016). However, parents' experience of Lidcombe may vary considerably. Some parents describe it as satisfying and straightforward when progress is rapid, whereas others find it confusing and burdensome when it is slower (Hayhow, 2009).

Despite international evidence, there is no evidence on how parents in India perceive and engage in the Lidcombe program. As a parent, being the primary source of therapy delivery, the program's success depends on parents' confidence and willingness to deliver it consistently.

Hence, it is important to investigate facilitators and potential hindrances specific to the Indian context.

Similarly, Response Cost is a behavioural treatment, derived from principles of operant conditioning, which results in loss or withdrawal of a previously earned reward due to undesirable behaviour such as a moment of stuttering. This treatment approach is delivered by SLPs. Weine (1963) has described Response Cost as a punishment procedure that captures some of the natural contingencies inherent in behaviour. Response Cost suppresses disfluencies (Siegel et al., 1969) with a significant decrease in percentage of syllable stuttered (%SS) and improvement in speech naturalness among pre-schoolers (Seth & Maruthy, 2020b).

Despite a strong evidence base for these two intervention programs, it has been a challenge to implement the Lidcombe program in the Indian scenario. Understanding these factors will help clinicians provide tailored support, improve programs' efficacy and optimise the outcomes for CWS.

On the other hand, due to the cultural environment, the parents may prefer treatment to be delivered by a speech-language pathologist rather than by themselves. Thus, there is a need to check the preference of the treatment giver in the Indian context. Hence, studying parental readiness and preference for the Lidcombe program and Response Cost is essential and timely. This study aims to investigate parental readiness and preference for delivering Lidcombe and Response Cost treatments in an Indian context. The data for the study will be collected through a semi-structured qualitative survey.

Aim of the study

To investigate mother's readiness and preference for delivering Lidcombe Program and Response Cost treatments in an Indian context.

Objectives of the study

1. To identify perceived facilitators, barriers, and cultural factors influencing participation of mothers in the Lidcombe Program and Response Cost treatment approaches in the Indian context.
2. To investigate mother's preference between the Lidcombe Program (parent-delivered) and Response Cost (SLP-delivered) intervention programs.

Chapter 2

Review of Literature

Stuttering is a neurodevelopmental speech fluency disorder characterized by repetitions, prolongations and blocks that disrupt the smooth flow of Speech (World Health Organisation, 2015). According to the World Health Organisation (2015), stuttering affects communication and psychosocial functioning. Stuttering usually first appears in preschool, usually between the ages of two and four, when language development is at its fastest. According to epidemiological research, stuttering affects about 5% of preschool-aged children, with a cumulative incidence reaching 11% by age 4 (Lewis et al., 2008; Reilly et al., 2013). Although many children recover naturally, a significant proportion continue to stutter, placing them at risk for long-term communication, psychosocial and academic difficulties.

The impact of stuttering extends beyond speech disruptions, carrying emotional, social and psychological consequences. Preschool CWS often experience frustration, avoidance of speaking situations, reduced verbal participation and negative self-perceptions (Langevin et al., 2010a). Parents of CWS report emotional distress, anxiety, guilt and concern about their child's future communication and social participation (Langevin et al., 2010b). If stuttering persists into adolescence and adulthood, it may lead to enduring psychological difficulties, reduced quality of life and limitations in educational and occupational opportunities (Erickson & Block, 2013; Iverach et al., 2009).

Consequently, early intervention during the preschool years is considered critical. A study by Jones et al. (2005) studied the efficacy of early intervention using the Lidcombe Program. A total of 54 participants aged between 3 years were randomized into two groups: 29 to the Lidcombe program group and 25 to the control group. The Stuttering frequency was measured as the percentage of syllables stuttered, based on an audiotape sample of

conversational Speech recorded outside the clinic. Parents in both groups collected speech samples before randomization in three different situations and at three, six, and nine months after randomization. Analysis after randomization has shown high significant difference at nine months. The mean proportion of syllable stuttered after randomization at nine months for experimental and control group is 1.5% and 3.9% respectively. The results provided evidence from a randomized control trial for early intervention for stuttering. The Lidcombe Program is a more effective treatment for preschool CWS. The treatment responsiveness is reported to decline with increasing age (Brignell et al., 2021; Packman et al., 2003). Therefore, early intervention during preschool years is recommended.

Intervention Approaches for Preschool CWS

Numerous evidence-based intervention techniques that address speech fluency as well as the child's emotional and communicative well-being can help preschoolers who stutter. These include the Lidcombe Program (Brignell et al., 2021), the Westmed Program (Trajkovski et al., 2011), the RESTART Demands and Capacities Model (RESTART-DCM) (Brignell et al., 2021), Palin Parent–Child Interaction therapy (Van Eerdenbrugh et al., 2023), Mini-KIDS (Leclercq et al., 2024), and behavioural approaches such as Response Cost (Brignell et al., 2021; Seth & Maruthy, 2020; Siegel et al., 1969; Weiner, 1963a). Systematic reviews and meta-analyses consistently support the efficacy of early intervention in lessening the severity of stuttering and preventing the emergence of negative attitudes toward communication (Brignell et al., 2021). The Lidcombe Program has emerged as one of the most researched and widely applied early stuttering treatments among these interventions (Brignell et al., 2021). Its effectiveness in bringing stuttering frequency down to almost zero levels in a predetermined amount of time has been shown in numerous randomized controlled trials and meta-analyses (Kingston et al., 2003; Onslow & O'Brien, 2013). The Lidcombe Program has also been shown to be more effective than natural recovery alone, with significantly greater odds of achieving

less than 1% syllables stuttered (%SS) compared to control conditions (Onslow & O'Brien, 2013).

The Lidcombe Program: Parent-Delivered Intervention

The Lidcombe Program is an operant conditioning-based behavioural intervention distinguished by its parent-led delivery. Speech-language pathologists (SLPs) train parents to provide verbal contingencies for both stuttered and stutter-free Speech in both regular conversations and structured practice sessions (Harrison et al., 2004). These parent verbal contingencies (PVCs) include praise, acknowledgement and requests for self-evaluation for fluent Speech, as well as gentle acknowledgement or requests for self-correction for unambiguous stuttering.

Evidence Base of the Lidcombe Program

Kingston et al., (2003) study was aimed to know how long treatment is likely to take and whether treatment can be predicted. The study included 66 children who began treatment before age 6. They were treated with Lidcombe Program at a specialist stuttering clinic. Logistic regression analyses were conducted on the data. The result has been shown that stage 1 of Lidcombe program was completed in median of 11 clinic visit. In meta-analysis, stuttering rate was found to be as a predictor of treatment time. An additional predictor was found to be the time interval between onset to treatment. It also reported that children who had been stuttering for more than 12 months took less time to progress through the program than those who had been stuttering for less than 12 months.

A study by Lattermann et al., (2008) investigated 48 German-speaking children aged 3.0-5.11 years and randomly assigned them to a control and an experimental group and which received the Lidcombe program for 16 weeks. Children had stuttering onset at least 6 months before, and more than 3% stuttered syllables as stuttering frequency. Spontaneous speech

samples were recorded at home and in the clinic prior to treatment and after 4 months. Compared to the wait-contrast group, treatment group showed significantly higher decreases in stuttering were reported in different settings, such as home and the clinic. The stuttering frequency reduced from 6.9% SS to 1.6% SS and 6.8% SS to 3.6% SS in home and clinical settings respectively, with the same increase in articulation rate. The results of this study have shown that the Lidcombe Program is an efficient treatment method to reduce stuttering in Germany-speaking children. Hence, the Lidcombe program is considered an enrichment of early stuttering intervention.

Nippold (2018) has studied two treatment approaches, the Lidcombe Program (LP) and the Demand and Capacities Model (DCM), in preschool CWS. The study aimed to evaluate treatment choices by focusing on external, evidence-based research rather than relying on clinical opinions. A hypothetical but realistic case of a 3-year-old boy who stuttered was used to represent a clinical case. Two treatment approaches were discussed, which are the Lidcombe Program, an evidence-based, parent-delivered treatment. Demand and Capacities model (DCM) with a focus on reducing linguistic and environmental demands on CWS. The article has reviews and critiques of research articles focusing on the above approaches. The results have shown that the Lidcombe program has been more effective in terms of faster and more significant reduction of stuttering in preschool children than the Demand and Capacities model.

Telehealth delivery of the Lidcombe program has shown effective results. Lewis et al. (2008) examined the effectiveness of the Lidcombe program's telehealth delivery in comparison to a control group. This study also aimed to determine the number of children who could be regarded as “responder”. A speech-language pathologist had provided telehealth delivery of the Lidcombe program over telephone consultations with parents in their homes, remote from the clinic. The study design was open plan, parallel group, randomized controlled trial with blinded outcome assessment. Children with no treatment control group who were still

stuttering after 9 months then received the same treatment. The frequency of stuttering was used as primary outcome which was gathered from audiotaped recordings during conversational speech in everyday, nontreatment situations, before and after treatment. Results showed a 73% decrease in stuttering frequency at 9 months after randomization in the treatment group compared with the control group. Measurement of treatment time shown that telehealth delivery of the Lidcombe Program requires 3 times more resources than standard presentation. This study has concluded that telehealth delivery of the Lidcombe program is an efficacious treatment for preschool children who cannot receive the standard, clinic-based Lidcombe Program.

The Lidcombe Program's primary focus is on parents as change agents, with clinicians serving as coaches and monitors. In order to help with clinical decision-making and treatment stage progression, parents must also rate the severity of their child's daily stuttering on a 10-point scale. While this approach allows therapy to be embedded within the child's natural communication environment, it also places considerable responsibility on parents to deliver treatment accurately, consistently and positively.

Concerns were initially raised regarding the potential adverse emotional or relational effects of parents commenting on their child's Speech (Cook & Rustin, 1997). Subsequent studies, however, have shown that the Lidcombe Program has no negative effects on parent-child attachment and may even enhance children's behaviour and communication confidence (Woods et al., 2002).

The efficacy of the Lidcombe Program is reported in systematic reviews (Baxter et al., 2015; Herder et al., 2006; Nye et al., 2013), many experimental studies (Bakhtiar & Packman, 2009; De Sonnevile-Koedoot et al., 2015; Femrell et al., 2012; Franken et al., 2005; Lattermann et al., 2008), and case series (Al-Khaledi et al., 2018; Hewat et al., 2020; Vong et

al., 2016b). The delivery of the Lidcombe Program through voice-only telephone (Lewis et al., 2008b), webcam (Bridgman et al., 2016; McGill et al., 2019; O'Brien et al., 2014), and a preliminary internet-based application has offered practitioners different options which are practical and can be Cost-effective.

Parental Experience in the Lidcombe Program

Goodhue et al., (2010) detailed mothers' experiences of administering the Lidcombe Program. They have collected experiences from 16 mothers interviewed before treatment and regularly throughout the 6-month intervention period. The data was collected using semi-structured, in-depth, face-to-face and telephone interviews. All interview was audio recorded and then transcribed into verbatim. Thematical analysis was used to identify mother's experiences. The mothers' perception of the program and their emotions were evaluated. Results have come up with three themes including implementation of the therapy, perception of the program and emotions mothers reported during the program. Under the theme implementation, three of obstacles were outlined are: finding time to fit in therapy, forgetting to implement the therapy, and managing the siblings. Whereas, few benefits of the programs which emerged were an increased in quality time with the child who stuttered, increase in knowledge and management of stuttering and improved parenting skills. Second theme is perception, the mother experienced emotional distress when progress was slow, difficulty in identifying stutter-free speech, and guilt when therapy sessions were missed. Mothers, in particular, have described emotional challenges such as anxiety, guilt, self-doubt and pressure related to being responsible for their child's progress.

Hayhow (2009) explores parents' experiences in understanding the progress of the Lidcombe program. Six parents were interviewed twice, and their responses changed over time. The data was analysed using an inductive approach supported by NVivo qualitative software.

Results have shown that parents experienced the program as satisfying and relatively simple when progress was straightforward. When progress is slower or erratic, parents perceive the treatment as complex and more confusing. Failure to address difficulties faced in the Lidcombe program can reduce therapeutic impact and increase parental distress.

Qualitative studies exploring parental experiences have reported mainly positive perceptions of the program, particularly when children show rapid progress (Packman et al., 2007; Goodhue et al., 2010). Despite the Lidcombe Program's solid evidence base, a number of studies point out difficulties in its parent delivery. Parents have expressed challenges in recognizing speech that is free of stuttering, adhering to suggested feedback ratios, scheduling daily practice sessions, and incorporating treatment into daily routines (Packman et al., 2007). Clinician-related factors, including reduced session frequency and limited monitoring of treatment fidelity, may further complicate effective implementation (O'Brien et al., 2009).

Bilingualism and the Lidcombe Program

The Lidcombe Program had shown beneficial effects when delivered in combination with 2 or more languages. The greater advantage of this program is that it is parent-delivered. The Speech therapist can deliver the treatment in a language other than the child's native language or can choose a third person, like a parent or guardian, to deliver the program in the native language. For instance, Van Eerdenbrugh et al., (2023a) studied bilingual children speaking in English-Dutch languages suggest fluency gain generalize across languages program using Lidcombe Program. Similar outputs by Bakhtiar & Packman, (2009) revealed a reduction in stuttering over 10-month periods in Persian and Balochi language user school-age children. Lim et al., (2009) have reported a reduction in stuttering severity by delivering treatment in one language in bilingual preschool CWS in Mandarin Chinese and English. Treatment has resulted in similar gains in other languages as well.

Cultural Adaptation of the Lidcombe Program

Vong et al. (2016) created an early intervention program for preschoolers in Malaysia, ages 3 years 3 months to 4 years 9 months. Evaluations were carried out both before and after therapy to determine the Lidcombe Program's effectiveness. Results have shown significant improvement in the child's Speech. The outcomes were achieved without the need to adapt the Lidcombe program procedure to Malaysian culture.

A systematic review by Subasi et al. (2022) examined the delivery and efficacy of the Lidcombe Program in non-native English-speaking countries. Eight peer-reviewed studies (2000-2009) have been identified across Europe and Oceania. These findings revealed that the Lidcombe Program is effective in reducing stuttering in preschool and young children across diverse languages and cultures, including bilingual languages. However, compared to native English-speaking countries, they required more frequent clinical visits and longer time to reach stage 2, due to challenges in teaching and implementing parental verbal contingencies, particularly praise, which was felt as unnatural or unfamiliar culturally. These challenges were overcome using minor adaptations like using gestures, bilingual delivery, tangible reinforcers and hybrid face-to-face and tele-practice models to facilitate implementation. Despite the time-consuming and demanding intervention, parents and therapists reported a positive attitude towards the Lidcombe Program.

However, India is a diverse country with differences in culture, including hierarchical family structures, differing mindsets, respect for professional authority, and time management for working parents. Indians may require cultural adaptation of the Lidcombe program to overcome barriers during its implementation.

Response Cost Treatment: Clinician-Led Behavioural Approach

Another behavioural intervention that is based on the principles of operant conditioning is called Response Cost, where previously earned reward is removed contingent upon an undesirable behaviour. The response Cost treatment was first introduced by (Weiner, 1963b) It is referred to as a form of negative punishment involving changing the Cost of behaviour to affect the rate of that behaviour (Weiner, 1963b). In exchange for stuttering, a reward that has already been won is taken away (Weiner, 1963), which involves removing a token, pausing interaction or implementing brief time out after stuttering moment. Unlike the Lidcombe Program, Response Cost is mostly administered by the speech-language pathologist in scheduled clinical sessions, and parents help reinforce strategies at home.

Response Cost techniques have been shown in early experimental trials to efficiently decrease disfluencies in both stuttering and normal populations after 10-17 sessions (Siegel et al., 1969). Ryan and Van Kirk Ryan, (1983) have used response Cost treatment (time-out procedure) for improving fluency of 16 school-age children. Additional generalization of fluency was achieved with transfer and maintenance program. More recent evidence supports its clinical utility for preschool CWS, showing significant reductions in %SS and improvements in speech naturalness (Seth & Maruthy, 2020). They have included five CWS in the age range of 3-6 years. Percentage of syllable stuttered (% SS), parent and clinician severity ratings, Stuttering Severity Instrument (SSI)-4 scores, and naturalness ratings were used to evaluate the sample using spontaneous Speech for both pre- and post-treatment. Results revealed a significant decrease in % SS, severity rating, SSI-4 scores and a significant improvement in naturalness rating in all five participants. Importantly, Response Cost may be perceived as less demanding for parents, as the clinician assumes responsibility for treatment planning, monitoring and delivery.

Response Cost has also been characterized as a punishment-based process, which may cause parents to question its acceptability and emotional impact, especially with young children (Weiner, 1963). Treatment adherence and results may be influenced by parental comfort with token removal, consistency in the home practice, and alignment with family values.

Parental Readiness, Preference and Cultural Considerations

Parents of CWS experience a wide range of emotional reactions that influence their involvement in intervention. Commonly reported feelings are stress, guilt, anxiety, fear of relapse. These emotional responses are relevant in the context of early intervention approaches such as Lidcombe program, where parent is an active role in delivering therapy. Parental readiness, motivation, and preferences are critical determinants of successful early stuttering intervention, particularly in parent-led programs such as the Lidcombe Program. Unlike clinician-led approaches, the Lidcombe program heavily relies on parents to deliver treatment in a natural environment. Hence, the effectiveness of treatment depends on parents' preparation, confidence, and willingness to deliver it. Motivation enhances the consistency and quality of treatment delivery, as parents who perceive treatment as effective are more inclined to adhere to therapeutic recommendations.

Studies show that how parents view their role significantly impacts their level of involvement in treatment. Hayhow (2009) conducted a qualitative interview with 21 parents of children under 6 years old who stuttered. The analysis of data was done using an inductive approach supported by NVivo software. Results have revealed that parents' experiences varied based on their child's progress. Parents whose child showed rapid progress perceived the program as satisfying and straightforward, whereas parents whose child showed slower progress perceived the program as confusing, frustrating, and as increasing emotional burden.

Emotional responses like anxiety, guilt and a sense of responsibility are also reported, which influence adherence to the program.

Further insights were provided by Van Eerdenbrugh et al. (2023b) regarding factors affecting the selection of treatment approaches for preschool CWS. The study used an observational design, with 36 Speech-Language Pathologists (SLPs) experienced in stuttering intervention and who use more than one treatment approach for children with stuttering as part of their standard practice. The SLPs spoke Dutch and had completed a questionnaire. Results have provided insights into the many factors that affect treatment choice, such as the child's reaction to stuttering, language skills, age, and family lifestyle. One of these was how easily parents understood the treatment plan.

Additionally, clear instruction and clinical support by therapist are key elements to increase parental confidence and engagement in the intervention. This finding suggests that parental readiness for the treatment program is shaped by contextual and emotional influences. Emotional stress and perceived difficulty impede effective parental involvement, while elevated self-efficacy and motivation enhance adherence.

Parents' feelings about intervention are greatly influenced by their cultural background. The Lidcombe Program is used in many different languages and cultures, but parents' beliefs, values, and parenting styles affect how they take part in the program. For instance, Vong et al. (2016) have investigated the efficacy of the Lidcombe program when implemented with preschool CWS in Malaysia. They have selected participants ranging from 3 years 3 months to 4 years 9 months. Parents learned and applied the verbal contingencies well and showed improvement in fluency. The Lidcombe Program can be successful across cultures without significant modifications, according to studies done in Malaysia and Mainland China; nevertheless, parental experiences and expectations may differ (Vong et al., 2016). In India,

based on thinking style, greater trust is on medical experts and clinician delivered than parent-delivered interventions. Factors like respect for authority, communication styles, family hierarchy, caregiving responsibilities, and time constraints can all have an impact on parents' confidence and desire to take on a therapeutic role.

Parent-Led Therapy's Emotional Burden

A wide range of emotional responses are experienced by parents of stuttering children, which affects their participation in intervention. Stress, remorse, worry, and relapse fear are frequently expressed emotions. These emotional responses are relevant in the context of early intervention approaches, such as the Lidcombe program, in which the parent plays an active role in delivering therapy. (Langevin et al., 2010b) have conducted a qualitative and quantitative survey reflecting the impact of stuttering on preschoolers and their parents. Sixty-nine parents were included and reported caregivers' emotional and behavioural responses. They have reported negative emotional impacts due to their child's stuttering. The most frequently reported reactions are uncertainty about what to do and how to manage the child's difficulty, worry or anxiety, or concern about the child's future, self-blame, upset, modifying their own Speech, and asking the child to modify their Speech. 70% of parents reported being affected by their child's stuttering. Overall, the evidence suggests parental emotional experiences are a critical component of early stuttering intervention.

Parents of children with stuttering who use stress-coping strategies associated with their child's communication difficulties, as reported in a study by Humeniuk and Tarkowski (2016). They have provided insights on how parents react to and cope with their child's stuttering. They involved 23 mothers and 23 fathers of children aged 3 to 6 years who stuttered. To systematically assess parents' responses, two standardized tools are used, including the Reaction to Speech Disfluency Scale (RSDS), which measures behavioural, emotional and

cognitive responses and the Coping Inventory for Stressful Situations (CISS), which was used to measure reactions and coping strategies such as emotion-oriented, task-oriented and avoidance-oriented coping. Results have shown the pattern between child's and parent's gender and parental reactions. Cognitive reactions, including concerns, thoughts, and interpretations about the child's stuttering, were more common than emotional reactions. It indicates that parents attempt to understand the condition rather than responding emotionally. Stronger emotional, cognitive and behavioural reactions were observed in mothers towards their son who stutters and in fathers towards their daughter who stutters. Mental reactions were more frequent than emotional reactions. Mother had adapted an avoidance-oriented coping strategy, whereas father had used task-oriented coping strategies. But this study has helped us understand how parents respond to their child's stuttering and how they deal with it. This may affect a preference for clinician-led therapy intervention. This indicates that parental perceptions and beliefs regarding stuttering substantially affect their engagement with intervention. This study has also highlighted parental coping strategies. Mothers were likely to adopt avoidance-oriented coping strategies, such as withdrawing from stressful situations, minimizing attention to the problem, or avoiding confrontation about the child's stuttering. At the same time, fathers use task-oriented strategies such as focusing on problem-solving, seeking information, and actively addressing the problem. These differences highlight the importance of parents' involvement in interventions such as the Lidcombe Program, which require parents as the primary helpers in the child's intervention.

Treatment Preference Literature

Van Eerdenbrugh et al. (2023) examined the clinical decision-making process used by speech-language pathologists to choose a treatment strategy for a stuttering preschooler. This observational study included 36 SLPs and commonly used strategies for children's stuttering

intervention. Results revealed that parents' ease influences their treatment choice, including factors such as convenience, effectiveness, and comfort with procedures.

In Summary

There is a noticeable dearth of empirical data on Indian parents' treatment preferences and readiness, despite the fact that stuttering research is growing globally. Given the prevalence of working parents, extended families, and restricted access to professional speech-language therapy in India, it is critical to comprehend the advantages and disadvantages of the approaches provided by parents and clinicians. Examining how parents view the Lidcombe Program and Response Cost provides important information about the treatment's viability, acceptability, and cultural fit. Rationale for the Present Study

Although both the Lidcombe Program and Response Cost have strong evidence supporting their efficacy, their success in real-world clinical settings depends heavily on parental engagement, readiness and preference. One major lacuna in the literature is the absence of data on parental attitudes from India. Parents' experiences, feelings, and cultural considerations can be better understood through a qualitative approach. Such data can help doctors make decisions, facilitate the planning of culturally sensitive interventions, and maximize outcomes for children with stuttering in the Indian setting.

Chapter 3

Method

The study aimed to investigate parental readiness and preference for delivering Lidcombe Program and Response Cost treatments in an Indian context.

Ethical Guidelines

The study adhered to the Ethical Guidelines for Bio-Behavioural Research involving Human Subjects, Version 2.0. The AIISH Institutional Review Board approved the study: SH/IRB/M.5/SLP.08/2025-26. All participants were informed in detail about the study's objectives and methodology. Further, informed consent was obtained from each participant, with the assurance that their confidentiality would be maintained throughout the study and that the data collected would be used solely for research and academic purposes.

Study Design

A qualitative survey design, specifically adopting a Reflective Thematic Analysis (RTA) framework outlined by Braun and Clarke (2006, 2019), was used to verify the proposed objectives of the study. The study was carried out in two phases. During the first phase, the questionnaire on parental readiness and preference for delivering the Lidcombe Program and Response Cost in the Indian context was developed and validated. In the second phase of the study, the developed questionnaire was administered to the parents of pre-school CWS.

Sampling procedure

The present study followed a purposive sampling technique to recruit participants. Participants who visited the tertiary clinic at All India Institute of Speech and Hearing were recruited.

Participants

Fifteen mothers of CWS were recruited for the study. The mothers of children aged up to 10 years who stutter were recruited for the study.

Selection criteria

Inclusion criteria

1. All participants who understood functional English were included in the study, with a middle socioeconomic status (based on information obtained from the Kuppuswamy socioeconomic scale, 2023).
2. Participants who reported intact hearing and normal communication skills were included in the study.
3. The study enrolled participants aged 18-49 years.
4. Mothers of children aged up to 10 years diagnosed with developmental stuttering by a speech-language pathologist experienced in fluency disorders.
5. Participants who had completed at least a secondary level of education were recruited for the study.
6. Native speaker of an Indian language with adequate speaking proficiency in English (assessed using LEAP-Q)

Exclusion criteria

1. Participants with a history of communication skills-related problems, such as cognitive, speech and voice disorders, hearing problems, or psychological and neurological problems, were excluded from the study.
2. Mothers of children who had undergone intervention previously were excluded from the study.

Table 3.1 Demographic details of mothers of CWS

Mothers	Age	Occupation
P1	34 yrs	Paediatric doctor
P2	35 yrs	Banker
P3	26 yrs	Home-maker
P4	35 yrs	Government employee
P5	32 yrs	Engineer
P6	45 yrs	Engineer
P7	38 yrs	Home-maker
P8	27 yrs	Home maker
P9	38 yrs	Home-maker
P10	29 yrs	Home-maker
P11	31 yrs	Home-maker
P12	28 yrs	Home-maker
P13	32 yrs	Home-maker
P14	35 yrs	Private job
P15	37 yrs	IT

Table 3.2 Demographic details of CWS

Participants	Age	Gender	Handedness	SSI	Severity	Age of Onset	Time since onset	Family history	Medical History
P1	5 yrs	M	Right	15	Mild	2.8 yrs	2.2 yrs	Maternal extended family member had stuttering	NIL
P2	4 yrs	F	Right	23	Moderate	2.8 yrs	1.2 yrs	Paternal uncle has stuttering	NIL
P3	3.3yrs	M	Right	18	Moderate	2.10yrs	0.5yrs	NIL	NIL
P4	4 yrs	M	Right	20	Moderate	2 yrs	2 yrs	NIL	NIL
P5	3.5yrs	M	Right	26	Moderate	2.7yrs	0.8yrs	Mother had stuttering	NIL
P6	5.5 yrs	M	Right	29	Severe	5 yrs	0.6 yrs	Elder brother has cerebral palsy	NIL
P7	3.1 yrs	M	Right	16	Mild	2.5 yrs	0.6 yrs	NIL	NIL

P8	3.10 yrs	M	Right	20	Moderate	2 yrs	1.2 yrs	Maternal grandfather had stuttering	NIL
P9	5yrs	M	Right	26	Moderate	3yrs	2yrs	Father had fast rate of speech	NIL
P10	5.6yrs	M	Left	22	Moderate	3 yrs	2.6 yrs	NIL	NIL
P11	2.7 yrs	F	Right	27	Moderate	1.5 yrs	1.2 yrs	Father and mother had stuttering	NIL
P12	5.5yrs	M	Right	24	Moderate	3.5yrs	2 yrs	NIL	NIL
P13	5.5 yrs	M	Right	27	Moderate	3.2 yrs	2.3 yrs	NIL	NIL
P14	4 yrs	M	Right	16	Mild	2.5 yrs	1.5 yrs	NIL	NIL
P15	4.11 yrs	M	Right	25	Moderate	2yrs	2.11yrs	NIL	NIL

Procedure

Development of Questionnaire

Literature search and derivation of factors related to the Lidcombe Program and Response Cost treatment. A thorough review of the literature on facilitators, barriers, and motivators for the Lidcombe Program and response Cost treatment was conducted. This search included studies on parental experiences of the Lidcombe Program and Response Cost. Several factors were derived from this search. In addition to factors derived from literature, certain factors deemed by experts in speech-language pathology are included. These factors are used to frame the following semi-structured interview questions.

Construction of the semi-structured interview. A questionnaire was developed in English based on the factors or facilitators that influence the administration of the Lidcombe Program and Response Cost treatment. This questionnaire has helped gather data on parental readiness for the Lidcombe program and response Cost treatment. The interview questionnaire was developed (See Appendix A) based on various factors highlighted in the literature to document parents' experiences after exposure to the Lidcombe Program (Goodhue et al., 2010), caregivers' perceptions of stuttering (Guttormsen et al., 2020), and the Lidcombe Manual. Based on literature and experts' opinions, the key domains were identified including knowledge and understanding, parental skill, confidence, emotional readiness, practical feasibility and cultural influences. The script was developed for Lidcombe program and Response Cost treatment. Along with script, the demonstration videos related to the Lidcombe program and Response Cost were used to enhance mothers' understanding of the program. The duration of video was 1 minute 15 seconds and 1 minute 25 seconds for Lidcombe program and Response Cost treatment respectively. A speech-therapist and child have been demonstrated the

implementation of the program in each video. Both videos and scripts were validated by five experts working in the field of Speech-language pathology.

Format of the questions and structure of the questionnaire. The questions were constructed in an open-ended format. The statements were written in simple vocabulary, ensuring comprehensibility and unambiguity. The response expected for each statement, Yes or No, if yes or no, describe why. The structure of the questionnaire included three sections. Before the questionnaire the scripts of both treatments, the Lidcombe program and the response Cost treatment was in cooperated. First section contained parental readiness for Lidcombe program and Response Cost treatment. A total of 15 questions including stage one and stage two of the Lidcombe program. The stage one included 12 questions based on domains like identification, parental skills, rate, consistency, confidence and emotion and remaining 3 questions under stage 2. Similarly, first section also included Response Cost treatment questionnaire where 4 questions under the domains of knowledge and understanding and consistency. Second section incorporated six confidence related questions where four were related to Lidcombe program and two were related to Response Cost treatment. Last section of the questionnaire included two questions related to parental preference. Additionally, seven probing questions were added after validation by an expert. The developed questionnaire was administered online via Google meet for the prospective respondents.

Review and Revision of the initial pool of questions. The developed questionnaire and videos related to the introduction of treatment programs were given to five experts in fluency disorders and three mothers who can read and understand English for validation. The questionnaire was assessed for its content and validity. Experts in speech-language pathology were asked to judge the questionnaire on content, meaning, accuracy, context, and clarity of statements, using a four-point rating scale, and to indicate whether the statements conveyed the intended meaning in a neutral position by adding their suggestions. The questionnaire was

validated by five experts who have a minimum of five years of experience in the diagnosis and intervention of fluency disorders. Yusoff (2019) proposed the use of the Content Validation Index (CVI) method for content validation, which was employed in the current study. The following suggestions such as cooperating frequency and duration of Lidcombe and Response Cost treatment, to add duration of video recording during the Lidcombe program to replace 'unambiguous stuttering' with 'moments of stuttering' and 'frequently encountered' with 'some common problem faced', using 'smooth speech' additionally to improve understanding of 'stutter-free speech' were incorporated. The Likert rating scale was used for the confidence rating; a few questions were rearranged as per suggestions. The questions with the same inferred meaning were removed. The suggestions they made were implemented, and the final format of the questionnaire was prepared.

According to calculations (see Appendix B), the item-level content validity index (I-CVI), Scale-level content validity index based on the average method (S-CVI/Ave) and Scale-level content validity index based on the universal treatment method (S-CVI/UA) was calculated and all meet an acceptable level of quality. As a result, the questions included in the semi-structured interview found to possess a satisfactory level of content validity.

The reliability of the questionnaire was checked by three mothers, ensuring clarity and ease of understanding of statements. They assessed the readability of statements in Google Forms, rating the font, type, and colour. Afterwards, the developed questionnaire administered to one mother of a child who stutters was analysed to determine the time, modality, comprehensibility, and familiarity of the questionnaire.

Phase 2- Administration of the Questionnaire on the Target Population and Data Collection

The mothers who agreed to participate in the study were recruited, and a consent form was sent through Google Form. The data was collected in 3 sessions with 24-hour intervals to

minimise response bias and encourage better engagement. The first session is dedicated to collecting demographic details and assessment details. In the subsequent two sessions, one was dedicated to an introduction to the Lidcombe Program, followed by administration of the questionnaire on the Lidcombe Program. Similarly, the third session is dedicated to an introduction to Response Cost, followed by a questionnaire related to Response Cost treatment for the mothers. During the first session, their demographic details and other relevant information related to medical and family history were obtained. The initial few minutes of the first online session involve a brief exchange of greetings and rapport-building to ensure participant comfort. Self-perceived proficiency in English was assessed using the Language Experience and Proficiency Questionnaire (LEAP-Q) (Kaushanskaya et al., 2020). The LEAP-Q form was shared as an editable Microsoft Word document with all participants. All participants were multilingual and reported being proficient in the English language, with a rating of 8 and above for LEAP-Q. Based on their responses, only those who met the inclusion criteria were selected for the study.

The interview was conducted via Google Meet video communication platform (online mode) by the researcher at a date and time convenient for the participants. Each interviewee was interviewed in three sessions, first involving the demographic information, second session included administration the Lidcombe program and the other involved the Response Cost treatment. In the beginning, although the purpose of the study was explained in the consent form, the researcher re-explained the purpose and objective of the study. The semi-structured interview was conducted using a set of open-ended questions and probe questions (Appendix A) to explore in-depth information from the participants. Both sessions were conducted with a 24-hour gap to avoid survey fatigue and maintain the quality of responses. Each interview lasted for 30 minutes, with the shortest interview being 18 minutes and the longest being up to 38 minutes. Each interview was audio-video recorded with the participants' consent.

The first session is dedicated to collecting demographic details and assessment details. In the subsequent two sessions, one was dedicated to an introduction to the Lidcombe Program, followed by administration of the questionnaire on the Lidcombe Program. Similarly, the third session was dedicated to an introduction to Response Cost, followed by a questionnaire related to Response Cost treatment for the mothers. The reliability of the responses was checked by re-administering the questionnaire to three mothers after 1 week. The previous responses were compared with the latter ones, ensuring the validity of the research findings.

Data Analysis

During qualitative analysis, Reflective Thematic Analysis (RTA) as described by Braun and Clarke (2006) was chosen for this study. This approach allows identification of patterns within qualitative data and enables a rich, in-depth interpretation of those patterns.

RTA is a theoretically flexible and easily accessible interpretative method for qualitative data analysis. It allows inductive data analysis, which incorporates highlighting the researcher's proactive role in knowledge generation (Braun & Clarke, 2022). In the study, Reflective Thematic Analysis was used, comprising six distinct phases (Braun & Clarke, 2022)

Phase 1: Familiarisation with the data set

The semi-structured interview was transcribed manually for data interpretation. All data was read and re-read to improve familiarisation, along with taking notes to extract initial concepts. This process requires the researcher to be extremely familiar with the data.

Phase 2: Generating initial codes

Coding involves identifying the key information in the data and summarising it using label segments. It involves the generation of initial codes using the data. Codes were done at several levels, from semantic (explicit) to latent (implicit), and the goal was to capture the

distinct meaning or concept. The coding was done using NVivo 15, a qualitative data analysis software, on a Dell laptop. Initially, a total of 202 codes were generated by closely examining relevant segments of the data. These codes were reviewed and refined, leading to the generation of a final set of 151 Codes used for the next phase of generating potential themes. However, this remained an iterative process, as codes continued to evolve as potential themes were developed.

Phase 3: Generation of the initial themes

Generating themes is a dynamic process; themes were developed from grouping the codes into broader patterns. The researcher developed themes based on data collected, the research questions and her expertise. Coding clusters that revolved around the central notion were compiled, which potentially provide a significant “answer” to the research question. Once the potential or candidate themes were identified, all coded data associated to the themes were compiled.

Phase 4: Developing and reviewing the themes

The researcher reviewed the themes generated in the previous phase and evaluated initial themes to ensure they demonstrated both empirical support and internal coherence. This phase involved answering to questions such as: Does each theme reflect a strong, compelling story about a significant shared meaning pattern in the data set? Do the themes as a whole highlight the most significant patterns in the data set that are pertinent to research question? Researchers have modified, merged or discarded themes when they are unnecessary.

Phase 5: Defining, refining and naming the themes

This phase involves redefining the essence of each theme generated in the previous phase ensuring each theme focused on a core concept. A brief summary of each theme was noted

along with selecting an informative and distinct name. Furthermore, each theme was examined to ensure its accuracy, coherence and alignment with participants' narratives.

Phase 6: Preparing the report

The final stages involve writing up the analysis, which is an essential part of the analytical process. During this process, each theme was presented in a logical and engaging way. The writing was redefined and finalised.

Additionally, two Speech Language Pathologists, including one qualified senior Speech Language Pathologist, reviewed the interview transcripts and validated the codes and the themes identified by the researcher. All of them discussed their views, putting aside any preconceived notions they may have regarding the study's findings and research questions. The Consolidated Criteria for Reporting Qualitative Research (Tong et al., 2007) were used to assist in the reporting of qualitative results.

Chapter 4

Results

The study aimed to investigate parental readiness and preference for delivering the Lidcombe Program and Response Cost treatments in an Indian context. Fifteen mothers of CWS were recruited and underwent a semi-structured interview. The questionnaire was validated by the experts as per Yusoff (2019) guidelines. Further, Reflective Thematic Analysis (RTA) (Braun & Clarke, 2022), was employed for qualitative analysis of the responses obtained from open-ended questions. The statistical analysis was used to analyse the data obtained from the questionnaire. Frequency distribution, mean scores for the confidence-related and parental readiness related questionnaire responses were obtained. These data was analyzed using descriptive statistical methods to summarize and interpret the overall pattern, central tendency, and variability of the participants' confidence level and readiness for intervention program.

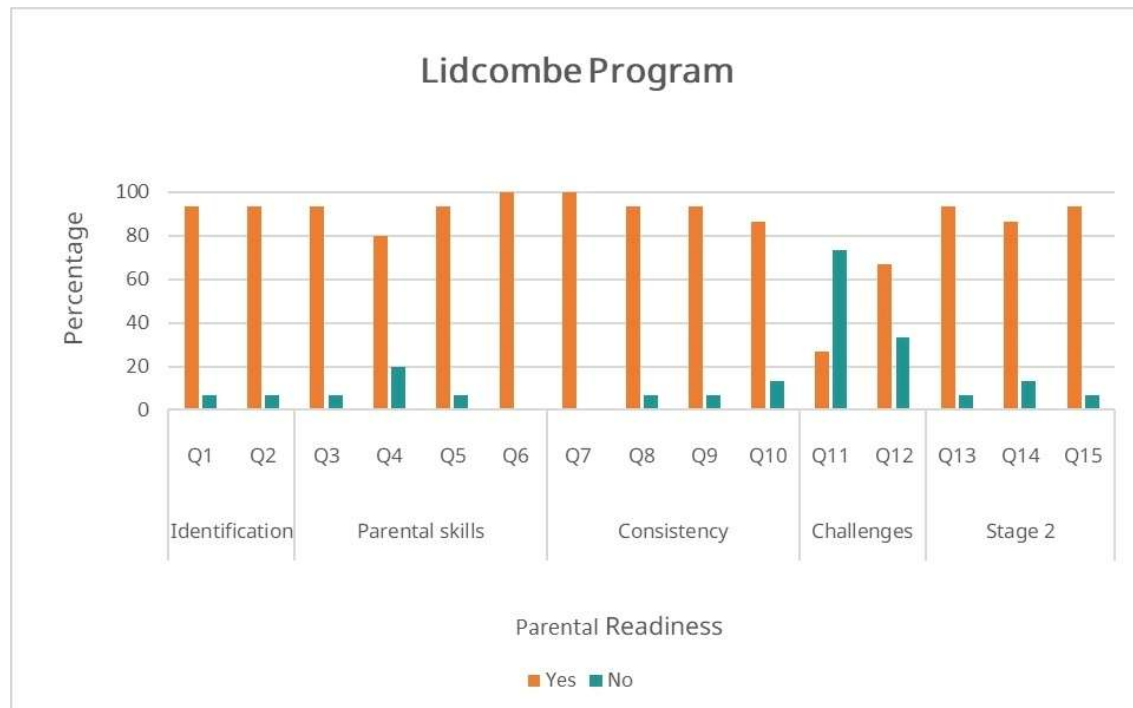
Quantitative analyses

The questionnaire had three sections, where first section includes parental readiness for Lidcombe program and Response Cost, and second section includes confidence related questions for Lidcombe program and Response Cost treatment. The last section of the questionnaire includes parental preferences. The second section included confidence related questions, including four questions from the Lidcombe program and two questions for Response Cost. The questions from section one and two were qualitatively analysed. The participants were asked to rate their confidence based on a Likert scale of 0 to 100%, where 0 represents no confidence and 100% recommends full confidence. The responses from a total of 15 mothers were obtained. Using IBM SPSS Statistics Software (version 27.0), statistical analysis was carried out for the obtained results. The following statistical procedures were used to analyse the quantitative data obtained through semi-structured interviews:

1. Mean values for sections I, Parental readiness for Lidcombe program and Response Cost questionnaires were obtained using descriptive statistical methods.
2. Mean values for sections II, Confidence score questionnaires were obtained using descriptive statistical methods.

Figure 4.1

The frequency distribution of participant responses for Section I, Parental Readiness for Lidcombe program

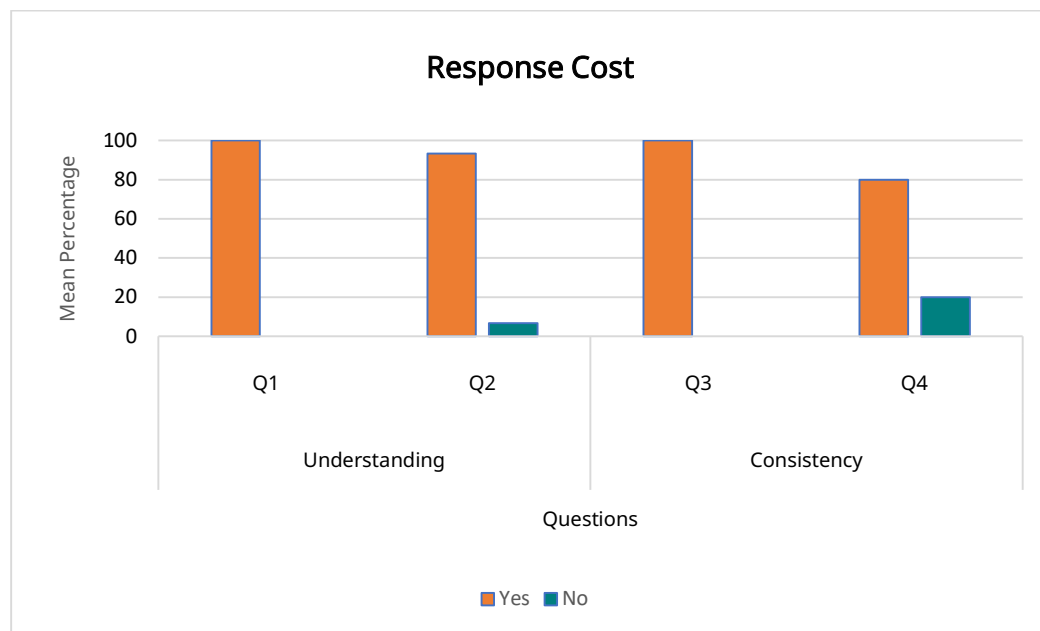


A total of 15 questions were related to parental readiness of the Lidcombe program, including stage one and stage two of the Lidcombe program. The stage one included twelve questions based on domains like identification, parental skills, rate, consistency, challenges including emotions and remaining three questions under stage two. It assessed the parental readiness for implementing the Lidcombe program at home environment.

Figure 4.1 shows that the percentage of ‘Yes’ and ‘No’ responses for parental readiness for Lidcombe program. For Lidcombe program, across the questions, percentage of ‘Yes’ responses ranged from 80% to 100% with mean 86.22%. Participants showed more than 60% agreement for both the programs, except for one question (Q11) related to common challenges faced by mothers during administration of the program.

Figure 4.2

The frequency distribution of participant responses for Section I, Parental Readiness for Response Cost

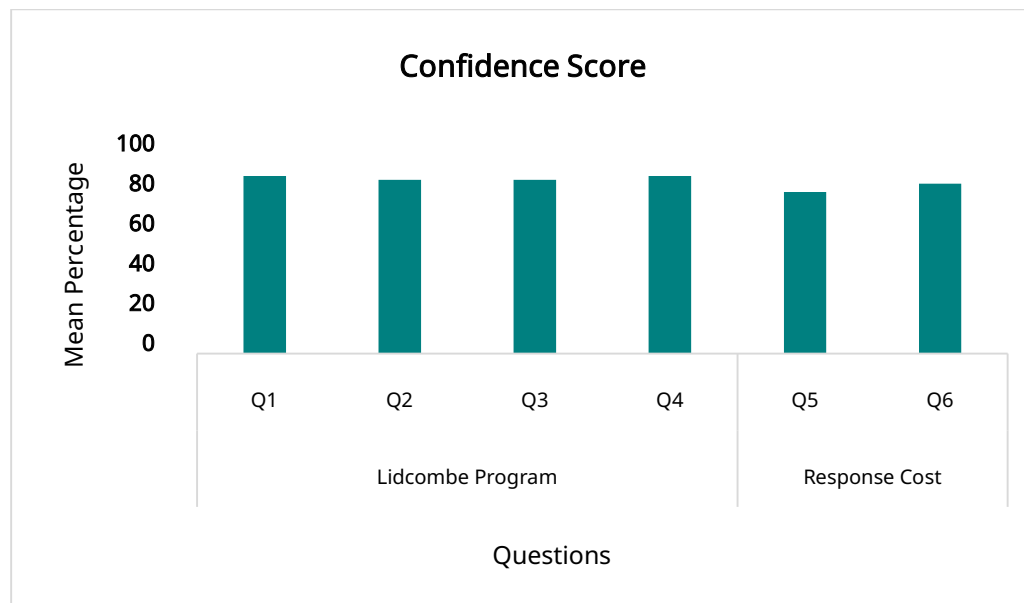


A total of four questions from first section related to response Cost treatment under the domains of knowledge and understanding, and consistency were administered to the participants. It has assessed the parental readiness for implementing Response Cost treatment at home environment.

Figure 4.2 shows that parental readiness ranges from 80% to 100% with mean 93.33% for Response Cost treatment. The findings indicate a high level of readiness among the parents to participate in and implement the intervention strategies. All the participants are ready to implement both the interventions, the Lidcombe program and the Response Cost interventions.

Figure 4.3

The frequency distribution of participant responses for Section II, Confidence-related questions



Second section incorporated six confidence related questions where four were related to Lidcombe program and two were related to Response Cost treatment. It has evaluated confidence to deliver both programs at home environment.

Figure 4.3 depicts the responses for confidence related questions for Lidcombe program and Response Cost. It showed that percentage of confidence for delivering Lidcombe program ranges from 87% to 89% with mean score of 88%. In comparison, the Response Cost the confidence score was ranging from 80% to 85% with mean score of 83%. Although the

confidence level for Response Cost is lower compared to Lidcombe program, the result suggests a relatively positive level of confidence in using the technique. These findings suggested that parents demonstrated greater confidence to deliver Lidcombe program after being trained compared to Response Cost treatment.

Qualitative analyses

Qualitative analyses of the data from 15 mothers whose children stuttered led to the generation of eight themes, among which four themes were under the Lidcombe program, three themes under Response Cost treatment and one theme under parental preference. These themes have provided information on the parental readiness and preference for both the Lidcombe program and the Response Cost treatment. Initially, for analysis, data from the 15 mothers of CWS were manually transcribed from interviews and accompanying audio-video recordings collected during the study. Initially, examiner identified codes from the dataset; after carefully re-evaluating the data, examiner merged similar duplicate codes. Then the examiner reviewed codes multiple times to ensure familiarity and consistency within the dataset. Similar codes were grouped together to identify sub-themes. These sub-themes are further refined, compared and organized to develop eight overarching themes and 26 subthemes. A brief theme description is shown in Table 4.1 and a detailed breakdown of codes under each theme and subtheme is provided in Appendix C.

The following section will describe each theme and corresponding subthemes, descriptive examples, and the frequency of each theme throughout the dataset.

Figure 4.4

Thematic map developed for Lidcombe Program and Response cost

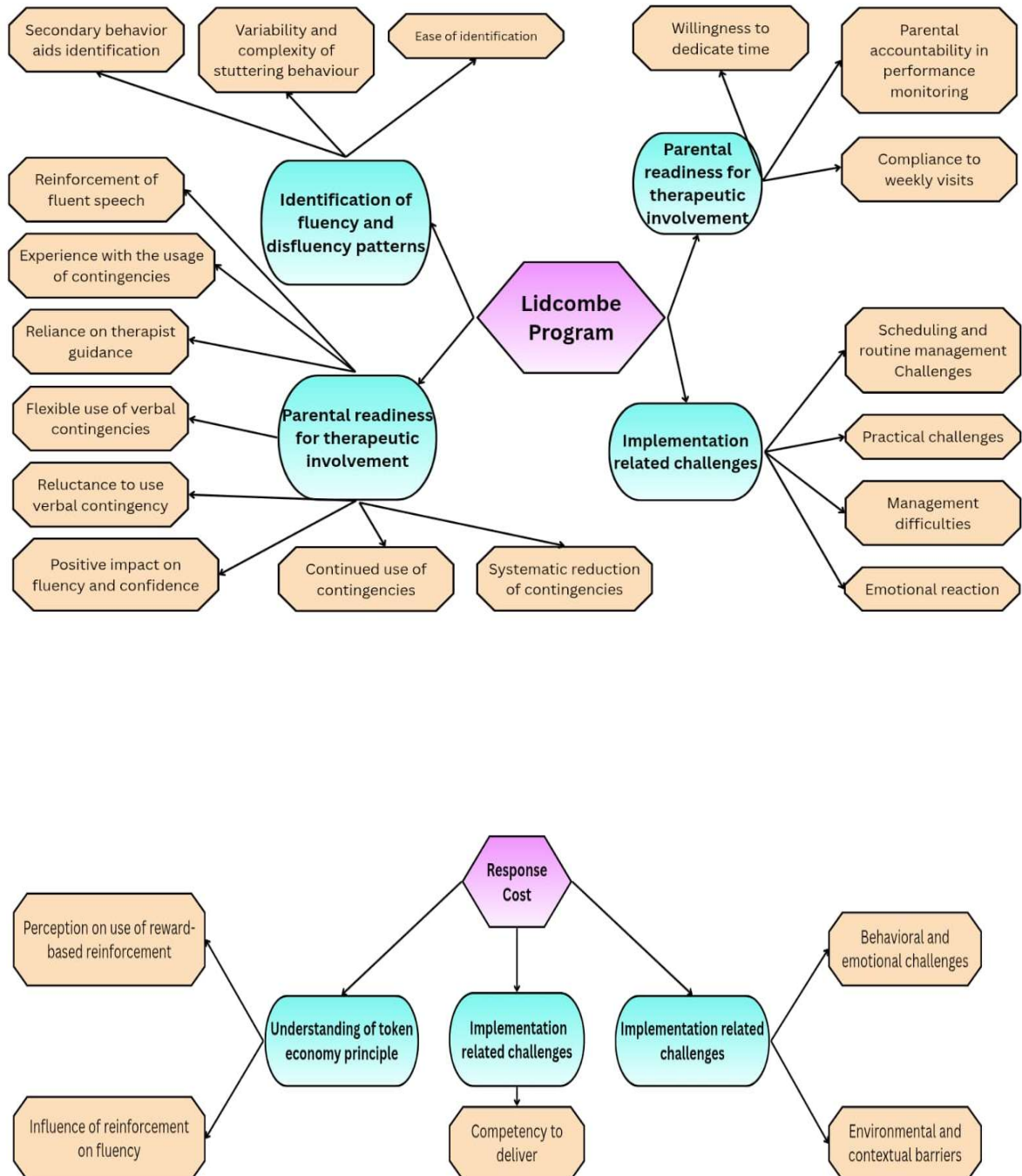


Figure 4.5

Thematic map developed for Parental Readiness

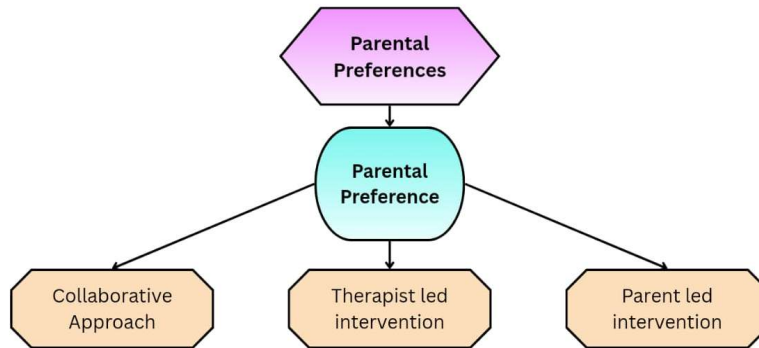


Figure 4.4 and 4.5 represents Thematic map developed for the Lidcombe program, Response Cost and Parental preference based on the dataset.

Themes for Lidcombe program

Theme 1: Identification of fluency patterns

This theme explores how mothers of CWS identify fluent and disfluent speech throughout the day. Participants described a dynamic, individualized process influenced by factors like observation, situation and patterns of speech. It contained subthemes such as ease of identification, variability and complexity of stuttering, and secondary behaviour aids identification.

Ease of Identification

Participants emphasized that ease of identification of fluency and disfluency was due to recognition of patterns (P4, P5, P13, P15) of fluent and disfluent speech based on word frequency (P7), onset (P5), and by differentiating fluent and disfluent speech (P11). Mothers were more diligent and observant (P1), which leads to effortless identification (P2) of the

speech fluency. Few mothers were able to identify characteristics of the stuttering and fluent speech, like identification of the prolongation (P3), pauses (P7) and repetitions (P12, P14). Similarly,

P1 stated:

"I am a paediatrician basically; I am aware of most of the speech disorders, so I can identify the stuttering easily."

P1 had professional knowledge in identifying disfluencies as she was aware of the speech disorders and could easily recognise the stuttered speech. Whereas, one mother whose elder son has cerebral palsy uses comparative judgment in identification. Based on speech pattern differences in the elder and younger child, she recognizes stuttering. Overall, the finding suggests that mothers were able to recognise the difference between fluent verses disfluent speech due to their close observation of the child, recognition of speech patterns and in few participants prior professional knowledge and personal experiences aid the identification.

Variability and complexity of stuttering behaviour

The mothers were able to predict when the child would stutter based on situation (P4), linguistic complexity (P3, P10), emotional (P4) and individual-specific variables (P10). Few participants have perceived stuttering as mild (P2, P12, P13), which is in identification. For example,

P2 stated:

"As most of the time she speaks smoothly without any effort, but stutters once in a blue moon "

Mother has difficulty to identify because speech was predominantly fluent, with stuttering occurring occasionally. The inconsistency in stuttering made the recognition challenging task.

Whereas,

P8 stated:

"When my child speaks slowly and softly, he has less stuttering compared to speaking loudly."

P8 and P14 highlighted the influence of speech rate and loudness on the fluency of the speech where it made them difficult to identify stuttering. As a child speaks with low loudness or slowly, the fluency of the speech increases compared to a loud and fast rate of speech. Calmness and knowledge about the context (P9) also affect the stuttering. Similarly,

P10 stated:

"Stuttering increases for unknown persons, whereas it reduces for known persons. As he is not confident in mingling with other people."

P10 has emphasized the individual variations. Stuttering increases with an unfamiliar person and decreases with a familiar person.

Secondary behaviour aids identification.

Two mothers reported that identification of secondary behaviour, like holding breath (P15) and closing eyes, improves identification of the stuttered speech. For example,

P3 states:

"Whenever he is stuttering, he shows behaviour like closing his eyes."

However, mother has reported that presence of secondary behaviours facilitated the identification of stuttered speech.

Theme 2: Verbal contingencies for promoting fluency

The second theme emerged from the usage of verbal contingencies, including type and frequency during the first stage, and continuation and withdrawal style of verbal contingencies during the second stage. This theme includes sub-themes such as reinforcement of fluent speech, prior experience of using verbal feedback, reliance on therapist guidance, adaptive use of verbal contingencies, Experience with the usage of verbal contingencies, child's response to verbal contingencies, positive impact on fluency, continued use of contingencies, systematic reduction of contingencies, and withdrawal based on child's progress.

Reinforcement of fluent speech

Mothers have reported that the use of verbal contingencies encourages fluent speech (P2, P5, P9, P10, P13), reduction of disfluent speech (P12) and boosts confidence (P2) to speak smoothly. It also helps parents' consciousness to provide verbal contingencies by improving the child's awareness (P8). Similarly,

P11 states:

"When she wants praise in future, she will try to speak smoothly,"

P11 reported that the child will start speaking fluently whenever there is a need for praise in future. This is the belief that positive verbal reinforcement, like praise, can motivate a child to improve fluency. However, when a child anticipates encouragement or appreciation for speaking fluently, she may make an effort to speak fluently. She may take greater efforts to monitor her speech. The expectation of receiving positive reinforcement may act as a motivating factor for the child to speak fluently in future communication situations.

Few mothers have reported that verbal contingencies have improved their child's confidence (P10, P11), improved speech fluency (P12, P3, P4, P15), and made changes in their

child's speech (P9). Overall, parents perceived verbal contingencies as a motivating and supportive strategies which influences children's speech fluency, confidence, and awareness during communication.

Experience with usage of contingencies

Two participants reported they had prior Experience of using similar verbal contingencies (P1, P3) with a child when he or she stutters. For example,

P3 states:

"I have given, and I have tried as well whenever my child stutters. It has had a positive impact on speech as well."

P3 highlighted parents' active involvement in implementing supportive strategies during moments of stuttering. Participant explains that consistent use of verbal contingencies contributed positively to the child's speech. This statement suggests that parental confidence in the effectiveness of the strategies used is important, suggesting that continued parental involvement in the intervention plays an important role in facilitating positive speech outcomes.

Two participants (P2, P3, P15) have reported a lack of Experience in using verbal contingencies. They expressed that they were unable to provide an opinion regarding its usage and effectiveness due to limited exposure to the program. Overall, this suggests that participants are willing to undergo the program but due to lack of their experiences, they were unable to provide more information related to verbal contingencies.

Two mothers have reported that they can't imagine the emotions they will feel in the future due to a lack of exposure to the program. The participants explained that without

implementing the program, it was difficult to predict their emotions. After experiencing the Lidcombe program, they will be able to provide their meaningful insights regarding their emotions and feelings.

Reliance on therapist guidance

Few mothers preferred to go with therapist guidance for the type and frequency of verbal contingencies (P5, P6, P8, P11, P12, P14) during the first stage and to decide continuation and withdrawal of the verbal contingencies during the second stage. They reported feeling more confident and assured when receiving direct instruction and feedback from the professionals. The participants perceived the importance of therapist support for implementing strategies at home and for monitoring the child's progress.

Flexible use of verbal contingencies

This sub-theme highlights the willingness to provide types of verbal contingencies out of the five verbal contingencies. It has been dependent on various factors like simplification of contingencies (P1), demand (P4, P14) and the child's motivation (P9). Similarly,

P2 states:

"I will start with two verbal contingencies, then proceed to 3, 4 and then 5 contingencies based on how my child takes it."

It reflects participants' interest in a gradual and individualised approach to introducing verbal contingencies. She emphasised introducing strategy step by step rather than all 5 at once, depending on the child's interest, adaptability and responsiveness towards verbal contingencies. It focuses on the fact that slowly increasing verbal contingencies would help the child

effectively and would reduce the possibility of overwhelming the child during therapy sessions.

Whereas,

P4 states:

"No, I won't give all five types of verbal contingencies. It will depend on the requirement of the situation and how the child takes contingencies."

It reflects the participant's flexible and need-based approach for using verbal contingencies. Participants have highlighted that individuals' demands and communication context highlight the Implementation of verbal contingencies. She believes that not all the verbal contingencies are suitable for the child; it depends on the child's comfort, receptiveness and therapeutic needs. Similarly, P13 also highlighted the use of verbal contingencies based on the requirement. However, two mothers have reported using all five verbal contingencies to encourage fluency of the speech.

Reluctance to use verbal contingencies

Few mothers have expressed restricted use of verbal contingencies for smooth speech (P7) as they felt it was not feasible to provide feedback to the child on every occasion. They had reluctance to use verbal contingencies for smooth speech as they felt that it might frighten the child by providing excessive attention towards the child's speech or make the child feel consistently monitored. They believe that repeatedly pointing out smooth speech will affect a child's communication and natural speaking behaviour. Hence, mothers prefer to use verbal contingencies based on the situation and the child's response (P8).

Positive impact on fluency and confidence

Mothers have reported that the use of verbal contingencies has a positive impact on the child's speech. One participant highlighted that positive reinforcement will help the child to improve his self-monitoring skills, and he will learn to self-correct (P1). Verbal contingencies will help the child to improve confidence, as the child will get constant guidance on his speech (P2). Similarly,

P1 states:

"Definitely, it will help him to get through stuttering. It will also reduce stuttering frequency; hence we will definitely continue verbal contingencies."

P1 expressed the importance of continuing verbal contingencies during the second stage, as it will be helpful for further reduction in stuttering and enhance the child's fluency. It also reflects participants' positive perception regarding the effectiveness of verbal contingencies. The response indicates a strong willingness to continue verbal contingencies in future for the benefits of the child's fluency and communication outcomes.

Continued use of verbal contingencies

During the second stage, participants have reported continued use of contingencies based on fluency (P5, P6) and improvement (P11, P14). Continuation of contingencies helps in the long term (P15) to maintain speech fluency.

P3 states:

"If he has recovered, he will stop using contingencies. If he stutters or feels that he will stutter in future, I will be using it again."

It reflects the participant's situational and need-based approach towards the use of verbal contingencies. Participants considered verbal contingencies as a supportive strategy which is

implemented during increased risk of stuttering. Once the child demonstrated recovery, the participant also expressed continuous use of contingencies no longer needed and showed willingness to reintroduce the strategies whenever signs of stuttering reappeared. Few participants have continued to prevent the reoccurrence of stuttering (P4) or to get 100% clarity on the speech (P10, P13). Some of the mothers have reported that it is their responsibility to continue verbal contingencies (P6).

On the other hand, a few participants have reported that as a child progresses, they may stop using contingencies (P7). Similarly,

P8 states:

"When he is improving, why pinpoint him?"

Participant highlighted that continuous use of contingencies for commenting on the child's speech when he has progressed will make the child overly conscious of their speech. It suggests that a preference for reducing verbal contingencies when children demonstrate progress for maintaining natural communication.

Systematic reduction of verbal contingencies

Most of the participants expressed a systematic reduction (P1, P7, P11, P13) of verbal contingencies, as it helps to maintain the fluency of the speech. P9 highlighted the importance of systematic reduction to prevent relapse of stuttering. Similarly,

P10 states:

"I will reduce verbal contingencies systematically and slowly, but if stuttering recurs, I have to continue them,"

P10 explained a gradual and structured approach toward the reduction of verbal contingencies during the second stage. The participant believed that as a child's fluency improves, the verbal

contingencies should decrease gradually but continue if stuttering reoccurs. It highlights knowledge of relapse and perceiving verbal contingencies as supportive tools that can be adjusted based on the child's speech fluency. However, one participant explained the effects of the sudden stoppage of verbal contingencies.

P12 states:

"I will gradually decrease the verbal contingencies. If I stop giving verbal contingencies suddenly, the child may get scared by thinking that their mom is not giving feedback. I will do it systematically so that he will be more confident if I do it systematically."

The participant agreed that abruptly removing verbal contingencies will have an emotional impact on the child, as the child may have become accustomed to receiving support during conversation. Hence, the participant refers to reducing the contingencies in a systematic and progressive manner to ensure the child feels secure and confident throughout the transition.

Few mothers have expressed termination of use of verbal contingencies when the child is improving to avoid pinpointing the child for past disfluency experiences (P11). P12 participant reported that when a child speaks smoothly, they don't feel any need to give verbal contingencies for the smooth speech. As a child improves and learns self-correction, there is no need to remind them using verbal contingencies (P7).

Theme 3: Parental readiness for therapeutic involvement

This theme involves facts or protocol of the Lidcombe program related to dedicating time, severity monitoring, weekly visits and recording of video. It involves sub-themes like willingness to dedicate time, scheduling and management challenges, parental accountability in tracking progress, compliance with weekly visits, adherence to therapy monitoring, and the influence of recording on performance.

Willingness to dedicate time

During the Lidcombe program, parents are supposed to dedicate 10-15 minutes to practice sessions daily. Most of the mothers agreed to dedicate time as they can spare 15 minutes for a practice session (P2, P7, P9, P10, P11, P12, P13, P14, P15) and a few work from home (P5). At the same time, few are willing to allocate more time as they are not working because of a child (P3) and have speech improvement as a central goal (P6). P8 need therapist guidance during practice sessions to monitor the child's performance. Similarly,

P4 states:

"As I am working, I can give time in the evening, and grandparents will do it in the morning."

It reflects participants' effort to manage therapy activities through shared family responsibility despite work-related constraints. Participants highlighted a collaborative approach where different family members are involved at different times for the child's improvement. It reflects the family's willingness to ensure consistency in the intervention by distributing responsibilities among caregivers.

All 15 participants have expressed their willingness to dedicate time to the Lidcombe program daily despite their personal and occupational responsibilities. They reported their commitment towards consistently implementing therapy activities at home. Their responses highlight a positive attitude towards active involvement in the child's intervention and the importance of the child's speech fluency.

Parental accountability in performance monitoring

Parental readiness to rate the severity of stuttering and record the video daily was categorised based on adherence to monitor therapy progress and practical challenges. Few

mothers have given commitment to rate the severity for tracking the progress (P2, P3, P5, P6, P7, P8, P9, P11, P12, P13) and to evaluate the child's fluency performance (P14, P15). Mothers have reported that it helps to monitor the effectiveness of the techniques on the child's speech and to choose appropriate techniques for the child (P3). Similarly,

P4 states:

"Rating can be done easily, but I have to teach it to his grandparents too, as I will be working."

P4 participant explained the need for shared family responsibilities for rating the severity of stuttering. It highlights willingness to adhere to the therapeutic protocol despite work responsibilities. It explains the importance of family support needed to monitor children's performance. P1 highlighted that professional commitment may affect the consistency of rating the severity.

Alternatively, mothers are willing to record the video for monitoring their children's fluency (P2, P6, P7, P8, P9, P10, P12, P13, P14, P15), whereas a few practical challenges are faced by mothers, including consistency (P4) of recording the video daily.

Compliance with weekly visits

All participants have agreed to visit the clinic weekly based on their geographical preferences. Whereas P6 have demanded the time preference for visiting the clinic due to work constraints. One of the participants has expressed a preference for online delivery of the program (P15) due to limited access to professionals and geographical barriers.

Theme 4: Implementation-related challenges

This theme highlights the challenges faced by mothers during the administration of the program. It also includes emotions expressed during the delivery of the program. A few highlighted sub-themes: management difficulties, emotional reaction and Experience with the usage of the technique. It will provide insight into practical difficulties faced by mothers in an Indian context. Seven participants have reported no barriers (P2, P3, P5, P6, P10, P12, P13) or emotional challenges (P7) that they will face during the administration of the program. Whereas one participant expressed feasibility for online delivery of the Lidcombe program due to their personal responsibilities (P10), and one participant reported a need for reminders for administration (P8).

Scheduling and routine management challenges

One participant has faced challenges in dedicating 15 minutes to a practice session daily due to work responsibilities. For example,

D1 states:

"Giving time alone, it will be difficult as we both are working. But we, as a family, will try it. We will delegate the task and make sure it is done."

This reflects participants' recognition of time constraints due to occupational responsibilities and also highlights a strong commitment towards the child's intervention through family cooperation. Participant explained that individually managing therapy activities will be challenging, but through shared family responsibilities and delegation of the task among family members, they will ensure consistent practice of therapy strategies.

Practical challenges

During the recording of the video, a few mothers faced practical challenges like the unpredictable nature of stuttering and the influence of recording on the child's performance.

This sub-theme also highlights child-related behavioural changes (P11) during recording. For example,

P1 states:

"Moments of stuttering could not coincide with recording timings. Hence, it is difficult to record."

P1 reflects difficulty in capturing the moments of stuttering during practice sessions. The participant expressed that stuttering instances may occur unpredictably and may not always present when recordings are being made. It highlights practical difficulties faced by parents while recording and documenting the child's speech behaviour accurately.

P3 states:

"I have to record without him noticing it. Someone else has to do it when I am doing an activity with him."

Participants' concern that the child's awareness of being recorded may influence the child's natural speech behaviour during therapy activities. The highlights recording should occur discreetly to capture more spontaneous and natural children's speech. Additionally, participants have highlighted challenges of simultaneously conducting the activity and recording the session, indicating the need for assistance from other family members.

Management difficulties

Mother has difficulty with therapeutic scheduling conflicts (P7), where managing time for practice sessions daily is not feasible. Few mothers have expressed difficulty with sitting compliance and reduced attention (P9), managing siblings (P12, P13) and a sense of responsibility (P13, P14) during administration of the program. Similarly,

P1 states:

"I can't dedicate fixed timings or a schedule. I try to inculcate it in daily routines and find opportunities to do it. I won't schedule a fixed time."

Participants have highlighted that maintaining the fixed scheduling will be difficult due to work responsibilities. They preferred to utilise naturally occurring opportunities throughout the day to implement intervention strategies. Similarly, P15 showed reluctance to strict scheduling. It highlights resistance to strict scheduling and a flexible and routine-based approach to implement intervention strategies.

P4 states:

"I will share it with his grandparents. I have to teach my parents first, then they will know how to respond to the child."

Participant highlighted the involvement of other family members due to work-related responsibilities. They express difficulty explaining the program and making them adequately informed; however, they will be able to respond to the child's speech behaviour. Participants have slight difficulty helping grandparents understand therapy strategies and an adequate way of responding to the child's speech.

Emotional Reaction

During the administration of the program, mothers may experience a few emotional issues related to their child's stuttering or the Lidcombe program. Emotions like anxiety (P10) due to persistence of stuttering, stress (P15) due to slow recovery of speech fluency and pity for the child when the child stutters (P1). A few mothers reported that they might feel emotionally low (P2) during the program. Whereas a few mothers demonstrated a shift of emotional reactivity to action orientation (P4) to improve the child's fluency. Alternatively, a

few mothers reported that they won't face any emotional challenges during administration of the program, as improvement in speech fluency is their central goal (P7).

Themes for Response Cost Treatment

There were three themes identified from the codes and sub-themes obtained from the interview. It includes understanding of the token economy principle, Delivering Response Cost at home and Implementation-related challenges.

Theme 1: Understanding of the token economy principle

The token economy principle involves a method of reinforcing desired behaviour, such as fluent speech, through rewards and positive reinforcement. Providing tokens after smooth speech will encourage the child to speak fluently. Mothers are ready to implement response Cost to improve their child's speaking fluency.

Perception of the use of reward-based reinforcement

Mother understood the response Cost as a system of earning and losing (P7, P8, P9, P10, P11, P12) and as recognition of behaviour changes (P4, P14, P15). They highlighted that response Cost helps to make the child conscious about his smooth and stuttered speech so that he will stutter less in the need for the reward (P7). Mothers have highlighted a reduction in stuttering (P12) and improvement in fluent speech. For example,

P12 states:

“I think his stuttering will come down by 80 to 90%,”

Participant have expressed the effectiveness of the Response Cost treatment to reduce the percentage of stuttering. Mothers have a positive attitude (P5) towards the effectiveness of the Response Cost program.

Influence of reinforcement on fluency

Mothers have highlighted that withdrawal of reward will make the child feel bad, which will lead to enhanced fluent speech (P4). Whenever a child is receiving the reward, he or she will become happy (P6), but whenever the reward is removed, in the expectation of getting it back (P5), the child will speak fluently.

Theme 2: Delivering Response Cost at home

This theme reflects parents' willingness to implement Response Cost treatment within home environment. Parents expressed readiness to implement learned strategies recommended by Speech therapist to encourage child's speech as it provides consistent practice and opportunities to practice beyond the clinical setting. This theme included competency to deliver as a subtheme to highlight parental involvement during implementation of the intervention.

Competency to deliver

Mothers were ready to implement response Cost at home by dedicating time (P2, P6, P9, P10, P11, P14) and committed to consistent practice (P4) at home. Mothers agreed to follow the therapeutic protocol (P3) of the Response Cost treatment. Mothers hope for improvement (P12, P13, P15) by reducing stuttered speech. Similarly,

P4 states:

"During practice time, I will give it for 15 minutes, which will help remind the child to speak correctly. It will develop his confidence."

Participants' understanding of using structured practice sessions and reinforcement strategies to support speech fluency. The participant believed that a specific duration for the practice session would be helpful to remain aware of speech patterns. Additionally, consistent practice could positively influence the child's confidence and motivation in communication. One

participant expressed the need to experience the program before making the decision regarding the delivery of the program at home (P13). Overall, mothers demonstrated readiness to implement Response Cost treatment at home during consistent practice, adherence to therapeutic guidelines for improvement in their child's speech fluency and confidence.

Theme 3: Implementation-related challenges

Response Cost has been perceived as having several challenges during the implementation at home environment. These included challenges like environmental and contextual barriers, behavioural and emotional challenges, child-related challenges and challenges in consistency.

Environmental and contextual barriers

Mothers reported difficulty with managing time (P12) and have a probability of distraction (P7) during administration of the program. Similarly,

P4 states:

"I have other kids well, so I'll get disturbed. I will try to be consistent, but I'm not sure."

Participant reported a concern regarding maintaining consistency in delivering strategies at home due to a busy home environment. The presence of other children is perceived as a potential barrier to distraction during the Implementation of activities. It has highlighted the difficulty which parents may experience in balancing multiple caregiving responsibilities and therapy implementations. Whereas a few mothers have reported the presence of an unsuitable environment. For example,

P1 states:

"It's actually quite a difficult or challenging task because the situation will be different, and we won't have that reward at that time. The environment won't be appropriate."

Participants explained the impracticality of the intervention. They highlighted that the availability of the rewards in different situations won't be feasible, making immediate reinforcement challenging. Additionally, environmental factors such as inappropriate settings and contexts were perceived as a barrier for effective Implementation of the intervention.

Behavioural and emotional challenges

Mother perceived the presence of behavioural and emotional-related challenges, like the presence of negative impact on the child due to withdrawal of reward (P1) and the presence of discomfort during the removal of the reward (P8). Few mothers were been concerned about their children's emotions during withdrawal of the token (P15). Similarly,

P1 states:

"Reward won't be suitable or temperament won't be at the receiving end, might not accept it and give it back or throw a tantrum are reasons for not liking this approach."

This reflects the participant's concern regarding the child's behavioural and emotional responses. Participant express that the effectiveness of rewards depends on the child's mood, willingness to accept and temperament. There are chances when a child may reject the awards or display tantrums, which could lead to difficulty with Implementation. Similarly, on emotions,

P1 states:

"Withdrawal technique may provoke him and make him anxious or angry; these emotions will aggravate stuttering. Very challenging and impractical to do."

The participants explained the effects of the withdrawal of rewards on the child's emotions. The withdrawal will provoke the child and lead to feelings of anxiety and anger, resulting in worsening of speech fluency. However, the response Cost is considered impractical to

implement. Mothers reported challenges with consistency due to personal and work-related responsibilities. They reported difficulty doing it regularly due to impractical intervention (P2). Participants can't assure that they will do it consistently every day (P8).

Mothers reported that their child may have difficulty in maintaining sitting compliance (P2, P3). Few mothers reported needs for adaptation based on the child's mood and schedule (P5). Similarly, one participant explained difficulty with reward preferences. For example,

P3 states:

"Always have to give a reward that the child likes. If we give beads, he may ignore things which he doesn't like (beads). Even if the reward is expensive, the child won't understand its value, and if they don't like it, they may move away from it."

It reflects participants' concern regarding the suitability and effectiveness of the rewards used in the intervention. The reward chosen should align with the child's personal interests and preferences to maintain motivation and engagement. The response highlights that the monetary value of a reward may not influence children's behaviour if the reward is not enjoyable to the child. These emphasise individualised and child-preferred reinforcers for the successful Implementation of Response Cost treatment. Whereas, two people have perceived no barriers to implement Response Cost treatment (P13, P14).

Themes for parental preference

Mothers were asked to choose between a parent-led program like the Lidcombe Program and a therapist-led program like the Response Cost. Based on the parental preferences, the intervention themes were derived as 'Parental preference'.

Theme 1: Parental Preference

It included two sub-themes: parent-led interventions, therapist-led interventions, and a collaborative approach. Parent-led intervention reflects active involvement of the parent to deliver the program within the home environment, whereas therapist-led intervention emphasises the guidance, support and supervision provided by the Speech-language therapist during the intervention process.

Parent-led intervention

Parent-led intervention includes the Lidcombe program, where parents are the primary deliverers of the program. Mothers have chosen parent-led intervention for the child based on a few factors, such as self-confidence to improve the child's speech, as the child is a quick learner and more comfortable with home intervention (P4). Few parents perceived stuttering as mild, and the child's quick learning abilities (P5) inclined them towards parent-led intervention. A few mothers highlighted parent-led intervention as they can spend more time with their kids at home and are more comfortable with mothers (P11, P14). Similarly,

P1 states:

"The Lidcombe program is much easier and more practical. It is also easy to understand and practice."

Participants' perception of the Lidcombe program as more feasible and user-friendly. The participant perceived the Lidcombe program as simple and easy to comprehend and to implement into daily routines. It also highlights accessible and easily implementable intervention approaches in promoting parental involvement and adherence to therapy. Similarly,

P3 states:

"I want to attend the Lidcombe program because I want to know the methods and techniques to practice those things at home."

The participant expressed a willingness to learn the protocol of the Lidcombe program. They perceived the Lidcombe program as more feasible to implement into daily routines compared to therapist-led intervention. Few mothers have explained difficulty with sitting compliance during the Lidcombe program intervention (P12).

Therapist-led intervention

The therapist-led intervention emphasises the Response Cost intervention, as the speech-language therapist will be providing the guidance, support and intervention. Mothers have reported the effectiveness of therapist-led intervention as therapists are more effective, more experienced regarding handling different cases (P9), and the child will learn faster during therapy sessions (P12). Few reported that either therapist's strictness (P13) or friendliness (P14) would be helpful to improve the effects of therapist-led intervention. Similarly,

P7 states:

"I will choose therapist one as I don't have much time, I can't invest my whole time in getting trained for the Lidcombe program."

Due to work-related timing constraints and limited availability for extensive training, mothers have chosen a therapist-led intervention (P6). Parents perceived that the therapist's approach would be more manageable with their responsibilities.

P2 states:

"Therapist one, response Cost will be very useful for the kids as they're going to get something, hence they may talk about something better."

The participant highlights their belief in a therapist-based approach; they believe that a reward-based system will encourage children to improve their speech performance through active participation in their communication. It has increased participants' confidence in therapist-guided intervention. Whereas few mothers expressed the importance of understanding the child, engagement will be more with a therapist-led intervention. The child will show better performance with the rewards (P13), more concentration with the therapist (P15) during Response Cost treatment.

Collaborative Approach

Few mothers have chosen both approaches, as only a speech therapist cannot deliver one hundred percent, and parents also require guidance for the Implementation of strategies (P2, P7). Alternatively,

P1 states:

"Both are important. A speech therapist will guide us about the do's and don'ts that are important for stuttering and recovery. Also, it is important for parents to practice the same. The therapist will tell you on specific days, but it's parents who have to collaborate on principles and apply them during stuttering moments. A holistic approach makes the kid recover as early as possible."

Participant reflects a collaborative approach, which reflects belief in both therapist-led and parent-led interventions. They highlighted the speech therapist's role in guidance, education and structured strategies. While also emphasising the parental responsibility by continuing practices during daily communication opportunities. It highlights the value of collaborative involvement between the therapist and parents, which may contribute to better recovery of the child's speech.

Chapter 5

Discussion

The current study aimed to investigate mothers' readiness and preference for delivering Lidcombe Program and Response Cost treatments in an Indian context. Understanding factors that need to be addressed before implementation for child's progress; parental perspective on treatment choice will help to implement effective intervention for the child. Hence, the objectives of the study were to identify perceived facilitators, barriers, and cultural factors influencing participation of parents in the Lidcombe Program and Response Cost treatment approaches in the Indian context. In addition, we investigated mothers' preference between the Lidcombe Program (parent-delivered) and Response Cost (SLP-delivered) intervention programs. Fifteen mothers participated in the semi-structured interviews, yielding both quantitative and qualitative analysis. The quantitative data was on readiness and confidence and rich qualitative themes through Reflective Thematic Analysis (Braun & Clarke, 2022). The qualitative study highlighted in depth insights of parent's readiness to deliver the program during home environment. This study is unique from previous research as it is first to enquire about the parental readiness and preferences for delivering interventions.

Quantitative Findings

The quantitative data demonstrated mothers were having high level of readiness to implement both the programs, Lidcombe program and Response Cost intervention. Readiness ranged from 80% to 100% (mean= 86.22%) for Lidcombe program, while readiness for Response cot treatment was even higher ranging from 80% to 100% (mean= 93.33%). This finding shows that greater willingness to implement both interventions by the Indian mothers expressed in the home environment. These findings align with the broader evidence base

supporting parental involvement in stuttering treatment. A randomised controlled trial study by Jones et al. (2005) demonstrated that the Lidcombe program is an effective parent-delivered intervention for preschool CWS. Parents were actively involved in collecting speech samples, delivering verbal contingencies and monitoring fluency progress. The high readiness score observed in the present study suggest that the Indian context presents favourable conditions for implementing such parent-delivered programs.

Confidence score for delivering the Lidcombe program ranges from 87% to 89% with mean 88% whereas for Response Cost treatment ranges from 80% to 85% with mean 83%. However, Lidcombe program demonstrated greater confidence to implement compared to Response Cost treatment. This may reflect that parent perceives Lidcombe program as easier to understand and apply consistently in everyday communication. Onslow et al. (2003) reported that parents expressed predominantly positive feeling about implementation of the Lidcombe program but a set of parents experienced lack of confidence in delivering therapy, indicating need of pre-intervention training. The present study suggests that targeted training can substantially improve parental confidence and will help to evaluate parental confidence in non-Western context where these programs have not been validated.

Qualitative Findings

Qualitative analyses of the data from fifteen mothers whose children stuttered lead to the generation of eight themes, among which four themes were under the Lidcombe program, three themes under Response Cost treatment and one theme under parental preference. These themes have provided information on the parental readiness and preference for both the Lidcombe program and the Response Cost treatment.

Themes for Lidcombe Program

Theme 1: Identification of Fluency and Disfluency Patterns

The first theme suggested that mothers demonstrated different ways in identifying smooth and stuttered speech in their children's speech. The majority of participants reported ease of identification based on close observation and recognition of speech patterns. Whereas, few of the mothers had prior professional knowledge or personal experiences to aid identification. These findings are in accordance with the literature suggesting that through daily proximity to their child, parents will develop an understanding of their child's speech patterns (Onslow et al., 2003). The Lidcombe Program depends primarily on this parental familiarity, training parents to identify between fluent and disfluent speech and deliver verbal contingencies accordingly.

Variability and complexity of stuttering emerged as a key subtheme. Participants reported that variability in the stuttering acts as a challenge in consistent identification. Stuttering fluctuated according to situational, linguistic, emotional, and social variables, making consistent identification challenging. This is well-documented in the stuttering literature; Bloodstein and Bernstein Ratner. (2021) suggested that frequency and severity of stuttering vary across communicative contexts. Findings from the present study reflect how Indian mothers perceived these contextual fluctuations and adapted their monitoring strategies accordingly, which is a prerequisite competency for successful implementation of the Lidcombe Program.

Two mothers additionally reported that secondary behaviours such as eye closures and breath-holding during moments of stuttering aided their identification of stuttered speech. Secondary behaviours are well-recognised features of developmental stuttering, often reflecting the speaker's physical tension and struggle during moments of disfluency (Guitar,

2025, p.137). Their use as identification cues by mothers, though not explicitly trained in the Lidcombe Protocol, suggests that parents draw on a broader observational repertoire than the protocol formally addresses, which may be a culturally specific coping or monitoring strategy worth acknowledging in future training programs.

Theme 2: Verbal Contingencies for Promoting Fluency

The second theme explored mothers' understanding and use of verbal contingencies, which forms the core of the Lidcombe Program. Most mothers perceived verbal contingencies as motivating and supportive strategies that positively influenced their child's speech fluency, self-monitoring and confidence. This is consistent with the programme's theoretical underpinning: verbal contingencies particularly praise for stutter-free speech are the primary treatment mechanism, and their effectiveness has been empirically supported in multiple controlled trials (Jones et al., 2005; Lincoln et al., 1996).

Participants who had prior experience using similar verbal strategies reported positive impacts on their child's speech. They have noticed improvement in their child's speech fluency, confidence and self-corrections. This finding aligns with Miller and Guitar. (2009) findings where parents who had implemented reinforcement strategies independently tended to engage with the Lidcombe Program more effectively. Whereas, two participants reported a lack of prior experience and expressed uncertainty about the effectiveness of verbal contingencies.

A notable finding was the widespread preference for therapist guidance to implement the Lidcombe program which includes determining the type, frequency, and timing of verbal contingencies. Studies examining parent delivery of the Lidcombe Program have found that parental compliance with the prescribed verbal contingency schedule is variable and often requires ongoing clinical support (Bridgman et al., 2016). The present study's finding that many Indian mothers preferred to defer to the speech-language therapist for guidance is consistent

with a collectivist cultural orientation toward professional authority, and highlights the need for closely supervised implementation, at least in the initial stages of treatment.

Flexible and adaptive use of verbal contingencies was another salient subtheme. Several mothers expressed a preference for a graduated introduction of the five verbal contingency types, based on the child's responsiveness. This reflects sound clinical reasoning, and aligns with recommendations from Onslow et al. (1997), who emphasise individualising the rate and type of contingency delivery based on the child's progress and tolerance. Alternatively, some mothers expressed reluctance to use verbal contingencies for smooth speech, concerned that excessive monitoring might negatively affect the child's naturalness of communication. This concern that as the Lidcombe Program manual explicitly advocates measured use of verbal contingencies to avoid making the child overly self-conscious.

On the question of continuing and withdrawing verbal contingencies during Stage 2 of the program, findings revealed that most mothers preferred a systematic and gradual reduction, which is consistent with the Lidcombe Program's Stage 2 guidelines. Jones et al. (2008) demonstrated that structured maintenance procedures during Stage 2 are associated with lower rates of relapse. The understanding displayed by participants in the current study that abrupt discontinuation could unsettle the child emotionally shows awareness of the psychological dimensions of the program, which goes beyond mere procedural knowledge.

Theme 3: Parental Readiness for Therapeutic Involvement

All fifteen mothers expressed willingness to dedicate the 10–15 minutes daily to structured practice sessions. This level of commitment is highly encouraging for implementation of Lidcombe program in Indian context. Previous research by Packman et al. (2007) has identified time constraints as one of the primary barriers to successful implementation of the Lidcombe Program particularly among working parents. The present

finding, where mothers either indicated they could accommodate the sessions into their schedule or proposed family delegation strategies, reflects a high degree of motivation and practical problem-solving orientation.

Several mothers with occupational responsibilities expressed need for family support with grandparents or other family members to ensure consistent therapy delivery. It reflects importance of shared family responsibility for the delivering the program. As delegation of therapeutic tasks to the extended family is a culturally distinctive feature of the Indian context, where multigenerational households are common. It suggests that the collectivist family structure prevalent in India may serve as a resource for program implementation, potentially compensating for individual time constraints that might otherwise impede delivery.

Parental accountability in monitoring stuttering severity and recording video was reported positively by the majority of the participants. Most mothers agreed to maintain daily severity ratings and video recordings for tracking child's progress. However, practical challenges were acknowledged, including the unpredictable occurrence of stuttering moments, the influence of awareness of being recorded on the child's speech behaviour, and difficulty managing therapy activities alongside siblings. These are consistent with challenges reported in the broader Lidcombe Program literature. Bridgman et al. (2016), in their investigation of parent delivery of the program, noted that home recording and compliance with daily monitoring were among the more burdensome aspects of the protocol for parents.

All participants agreed to weekly clinic visits, with one participant expressing a preference for telehealth delivery due to geographic barriers. The present finding suggests that Indian clinicians should consider offering remote delivery options to serve families in rural or geographically underserved areas.

Theme 4: Implementation-Related Challenges for the Lidcombe Program

A range of implementation challenges were reported by the participants including scheduling difficulties, emotional reactions to the child's stuttering, and management difficulties arising from sibling presence, sitting compliance, and the unpredictability of stuttering. Seven of fifteen participants reported no perceived barriers. This reflects broadly positive attitudes toward program delivery. This finding contrasts with the existing findings from studies conducted in Western contexts, where implementation challenges are frequently reported as significant deterrents (Packman et al., 2007). Among Indian mothers relatively absence of the barriers reflects both motivation and a possible underestimation of practical difficulties prior to actual program exposure.

Mothers reported emotional challenges while delivering the program in an Indian context. They experience emotions like anxiety due to persistence of stuttering, stress due to slow recovery and pity feelings towards child. Few implementation related challenges including management difficulties and emotional reaction were perceived. Mothers have expressed scheduling conflicts and highlighted need for shared family responsibility for implementation of the program. Similarly, Hayhow, (2009) have focused on parents' experiences of Lidcombe program in early stuttering intervention. Their parent perceived Lidcombe program as the treatment as easy and simple when therapy proceeds straightforwardly. When progress is slower or erratic parents perceive the treatment as more complex and confusing. These findings are in accordance with the findings of Goodhue et al., (2010), who highlighted that mother felt greater responsibility, stress and guilt during administration of the program. Whereas according to the present study on 26.66% mother perceived emotional reaction towards the Lidcombe program.

Emotional challenges including anxiety about the persistence of stuttering, stress due to slow progress, and emotional distress when observing the child stutter, were reported by several participants. Emotional responsivity in parents of CWS is well-documented in the literature. Kefalianos et al. (2012) found that parents of CWS experience significantly elevated levels of worry and distress compared to parents of typically fluent children. Acknowledging and addressing these emotional reactions through counselling and support is an important component of holistic stuttering intervention.

Themes for Response Cost Treatment

Theme 1: Understanding of the Token Economy Principle

Mothers demonstrated understanding of the token economy principle underlying the Response Cost treatment, where it is like a system of earning and losing tokens contingent on speech behaviour. Most perceived the withdrawal of rewards as a mechanism to heighten the child's awareness of stuttered speech and thereby motivate fluent speech production. This is congruent with the behavioural principles of operant conditioning, wherein negative punishment (removal of a positive stimulus) is used to reduce the frequency of a target behaviour. The application of token economies to stuttering treatment has been supported in the literature which includes as contingency management approaches, including response Cost, have been reported to be effective in reducing stuttering in children when implemented in structured clinical and home settings (Onslow et al., 1990).

A notably positive attitude toward the effectiveness of the Response Cost approach was observed among the majority of participants. Mothers reflected high expectations for this program. While this level of optimism is clinically encouraging in terms of raising parental expectations the importance of managing expectations and ensuring that parents receive realistic information about typical treatment trajectories, particularly given that stuttering

outcomes are highly variable and influenced by multiple factors including age of onset, severity, and child temperament.

Theme 2: Delivering Response Cost at Home

Mothers expressed readiness and competency to deliver the Response Cost treatment at home with the majority indicating willingness to dedicate structured practice sessions. Mothers were ready to adhere to the therapist's protocol. Several mothers believed that consistent practice outside the clinical setting was important for maximising treatment gains, which aligns with general principles of generalisation in speech-language therapy, where carryover of skills from structured contexts to naturalistic communication environments is essential for durable outcomes.

Few participants reported the lack of experience towards the program. They need to experience the program by themselves before committing to home delivery as it increases confidence to implement the program. This reflects a cautious, experience-based approach to decision-making. This finding suggests that for some parents, live demonstration or trial implementation of the Response Cost treatment within the clinical setting may be a critical precursor to confident home-based delivery. Clinicians should consider incorporating in-session modelling and guided practice as standard components of the training protocol for Response Cost.

Theme 3: Implementation-Related Challenges for Response Cost

Several implementation challenges were identified for the Response Cost treatment, most notably environmental and contextual barriers, and behavioural and emotional challenges related to the child's response to reward withdrawal. Mothers reported concerns about the availability of appropriate rewards in varied environments preferably outdoor environments.

Mother have faced difficulties in of maintaining a distraction-free context for practice, and the logistical demands of managing a token economy alongside other caregiving responsibilities. There concerns are not only unique to Indian contexts but also recurring challenge in the application of operant-based stuttering interventions in naturalistic settings is ensuring the consistent availability and appropriateness of reinforcers across different environments and times of day.

The emotional impact of reward withdrawal on the child emerged as a significant concern for many mothers. They have concerns regarding removing tokens could provoke negative emotional reactions including frustration, anxiety, and tantrums which in turn might exacerbate stuttering. According to Conture and Curlee (2007) this concern is clinically valid the relationship between stuttering and negative emotional arousal is well-established, and intervention approaches that inadvertently increase emotional distress risk reduces the treatment gains. Several mothers felt that the Response Cost method was more challenging and less practical than the Lidcombe Program, particularly for home use, which has implications for clinician training and the modification of the protocol to reduce its emotional burden on both parent and child.

Child-related challenges including difficulties with sitting compliance, temperament-related responses to reward removal and variable attention, were also highlighted. These concerns mirror findings in the broader token economy literature, which emphasises the importance of individually tailoring reinforcer selection and schedule to the child's preferences, developmental level, and behavioural characteristics (Kazdin & Bootzin, 1972). The finding that reward suitability requires careful individualisation is an important clinical implication of the present study, particularly in the Indian context where children's preferences for specific tangible rewards may differ from those in Western populations.

Parent-Led versus Therapist-Led Intervention

A key aim of the study was to elicit parental preferences between a parent-led approach (Lidcombe Program) and a therapist-led approach (Response Cost treatment). The findings revealed that a subset of mothers preferred the parent-led Lidcombe program, another set preferred the Response Cost approach, and a few preferred a collaborative approach.

Mothers who preferred the parent-led Lidcombe Program cited its perceived practicality, ease of integration into daily routines, and the increased time available for home-based practice. The child's reported greater comfort with the parent as the intervention agent was also a frequently cited reason. These factors are considered as the strengths of the Lidcombe Program that have been articulated in the wider literature: its ecological validity, high parent engagement, and integration into natural communicative environments are commonly highlighted as advantages (Onslow et al., 2003). The perceived simplicity of the program supports existing evidence that the Lidcombe Program is highly accessible to parents without prior clinical training, when adequate guidance is provided.

Mothers who favoured the therapist-led Response Cost approach cited the perceived guidance of the speech-language therapist in managing stuttering. The mother believed that a faster learning pace was predicted in a clinical setting and also highlighted limited time constraints their availability for home-based training. Time availability has been consistently identified in the literature as a significant predictor of parental treatment choice and adherence (Packman et al., 2007). The belief that reward-based contingencies would motivate the child to speak fluently was also offered as a reason for preferring the Response Cost approach, reflecting confidence in the operant principles underpinning the intervention.

A collaborative approach that integrated both parent-led and therapist-led elements was preferred by several mothers. These mothers who argued that neither approach alone was

sufficient for optimal outcomes or believed need for both approach for child's interventions. This finding is particularly noteworthy and aligns with an emerging body of evidence supporting integrated or hybrid intervention models for childhood stuttering. Millard et al. (2008) demonstrated the effectiveness of a combined parent-child interaction therapy and Lidcombe style intervention, suggesting that models that in cooperate both the therapist's clinical expertise and the parent's consistent access to the child may produce good outcomes. Few participants have highlighted the importance of therapist's guidance and highlighting parental role in applying those principles during naturally occurring stuttering moments.

These findings taken together, suggest that there is no single preferred modality among Indian mothers and that intervention preferences are shaped by a complex interplay of occupational demands, perceived program accessibility, child characteristics and confidence levels. Clinicians should approach treatment planning as an individualised, family-centred process, offering better suitable options and engaging in shared decision-making rather than applying a one-size-fits-all protocol.

Implications for Clinical Practice in the Indian Context

The present study provides important insights into the feasibility and acceptability of the Lidcombe Program and Response Cost treatment in the Indian context. The high levels of parental readiness and confidence observed suggest that both programs have strong potential for implementation in India provided that adequate training, support, and cultural adaptation are offered before and during implementation of the program. Several culturally specific features of the Indian context emerged as both potential facilitators and barriers. The involvement of extended family members, particularly grandparents in therapy delivery presents a unique resource that clinicians should proactively incorporate into treatment planning. This helps to share the responsibilities among family members for consistent

implementation of the intervention for child's progress in the home environment. Conversely, the emotional distress experienced by mothers in relation to their child's stuttering highlights the need for embedded counselling support within both programs.

The lower confidence scores associated with the Response Cost treatment, compared to the Lidcombe Program, were likely due to greater number of implementation challenges. It suggests that the Response Cost protocol may require more intensive pre-treatment training and closer clinical supervision for Indian families, particularly in the initial stages. Adaptation of the reward selection process to account for child-specific preferences is also likely to be necessary for optimal engagement during implementation of the program.

The finding that a significant proportion of mothers preferred a collaborative approach highlighting the importance of designing intervention pathways that are flexible and responsive to family needs. The development of hybrid delivery approach where parents are trained and supported by clinicians to deliver structured practice at home, while the therapist continues to manage key clinical decisions may offer the most ecologically valid and culturally acceptable approach for Indian families.

Chapter 6

Summary and Conclusion

Stuttering is a complex fluency disorder that typically emerges in early childhood, and early intervention is widely recognised as essential for minimising its long-term communicative, social, and psychological impact on the child. Two evidence-based treatment approaches for early stuttering the Lidcombe Program and the Response Cost treatment were selected for investigation in the present study due to their contrasting delivery models. The Lidcombe Program is a parent-led, operant-based behavioural treatment in which parents are trained to deliver verbal contingencies for fluent and stuttered speech in the child's naturalistic environment, under the guidance of a speech-language therapist. The Response Cost treatment, in contrast, is a therapist-led token economy intervention in which the child earns and loses tokens contingent on the presence or absence of stuttered speech. Both approaches have demonstrated clinical efficacy in Western contexts; however, their feasibility and acceptability within the Indian context had not been previously studied.

The primary aim of the study is investigating parental readiness and preference for delivering Lidcombe Program and Response Cost treatments in an Indian context. Fifteen mothers were recruited for the study and participated in semi-structured interviews. A validated questionnaire was used to assess participants across three sections: the Lidcombe program, Response Cost treatment and parental preferences. The quantitative and qualitative analysis were conducted. Quantitative findings indicated high level of parental readiness for both programs. Confidence scores were higher for Lidcombe program compared to Response Cost treatment.

Qualitative themes for Lidcombe program included: Identification of fluency and disfluency patterns, Verbal contingencies for promoting fluency, Parental readiness for therapeutic involvement, Implementation related challenges. Themes for the Response Cost

treatment included: Understanding of the token economy principle, Delivering Response Cost at home, Implementation related challenges. A final theme on parental preference revealed three orientations: parent-led intervention, therapy-led intervention and collaborative approach. These preferences were shaped by factors like child characteristics, work constraints, perceived program simplicity and confidence in professional expertise.

Conclusion

The findings of this study lead to several key conclusions related to feasibility, acceptability, and implementation of the Lidcombe Program and Response Cost treatment among Indian mothers of CWS. First, Indian mothers demonstrated a high level of readiness and confidence to participate in the program and deliver both intervention programs, suggesting that evidence-based stuttering interventions developed in Western contexts are broadly acceptable to caregivers in the Indian context. The high readiness scores observed across both programs indicate that Indian families are motivated to engage actively in their child's speech intervention and that there is a strong foundation for introducing these programs into the Indian clinical landscape.

Second, mothers displayed a sound understanding of the core principles of both the Lidcombe Program and the Response Cost treatment, including the function of verbal contingencies, the rationale for systematic reduction and the role of token economy in motivating fluency. This suggests that structured information provision and pre-training sessions are effective in equipping Indian mothers with the knowledge required to implement these programs.

Third, while parental readiness and confidence were generally high, important distinctions emerged between the two programs. Confidence was slightly higher for the Lidcombe Program than for the Response Cost treatment. As the more implementation

challenges were anticipated for the latter. The Response Cost treatment rely on consistent availability of rewards, the child's temperamental response to reward withdrawal, child's preferences for reward and the complexity of managing a token economy within a busy household were identified as significant barriers. These findings suggest that the Lidcombe Program may be more readily and easily implementable in the Indian home environment in its current form. While the Response Cost protocol may benefit from contextual adaptation to overcome the barriers before widespread clinical application.

Fourth, the study identified a range of culturally specific features of the Indian context that influence the implementation of both programs. The involvement of extended family members particularly grandparents as co-deliverers of therapy is a distinctive resource of multigenerational Indian households that could be systematically incorporated into treatment protocols. At the same time, occupational constraints among working mothers, logistical challenges related to daily scheduling, and the emotional burden of managing a child's stuttering alongside other caregiving responsibilities emerged as contextually relevant barriers that must be addressed in treatment planning.

Fifth, the diversity of parental preferences identified in the study spanning parent-led, therapist-led, and collaborative orientations underscores the importance of a family-centred, individualised approach to stuttering intervention. No single delivery model was universally preferred, and treatment decisions should therefore reflect a collaborative process between the clinician, the child, and the family, taking into account the family's specific circumstances, values, and goals.

In conclusion, this study establishes a strong preliminary evidence base for the feasibility of introducing both the Lidcombe Program and the Response Cost treatment into clinical practice in India. It also provides a validated questionnaire for evaluating parental preferences and

readiness before implementation. The high levels of parental readiness and confidence observed, combined with the rich qualitative data illuminating potential facilitators and barriers, provide a platform for the culturally sensitive adaptation and evaluation of these programs within the Indian healthcare system.

Implications of the current study

The findings of this study carry significant implication for Speech-language therapist working in the area of paediatric fluency disorders in India. Integrating the validated questionnaire for evaluating parental readiness before administering program provide insightful recommendations. Clinician should actively facilitate the extended family member rather than limiting training to the primary caregiver. Several mothers described emotional challenges associated with managing demands of home therapy. These findings highlight need for clinicians to provide emotional support and counselling as integral component of intervention. The diversity of parental preferences underscores the need for clinicians to offer a range of delivery options rather than a one-size-fits-all model.

Limitations and Future Directions

- The study employed a small, purposive sample of fifteen mothers
- Participants were recruited only from the All India Institute of Speech and Hearing, Mysore.
- The only two treatment programs were used to evaluating parental readiness and preferences.

Future studies should direct compare effectiveness of parent-led, therapist-led, and collaborative delivery models. It should also investigate the longitudinal outcomes of the Lidcombe program and Response Cost treatment when delivered by Indian mothers following structured training.

Concluding statement

This study addresses a significant gap in the global stuttering literature by providing the first empirical investigation of parental readiness and preference for stuttering intervention among Indian mothers to deliver the treatment at home environment. The findings affirm that Indian mothers are enthusiastic, motivated, and broadly prepared to engage with evidence-based stuttering interventions, and they reveal a rich landscape of facilitators and challenges that must be understood for effective program before implementation of the program. The study calls for the culturally sensitive adaptation of existing intervention programs, the development of flexible and family-centred delivery models, and continued investment in the training and support of both parents and clinicians. The study provides evidence-based framework for stuttering intervention in India which is culturally grounded. It is possible to ensure that Indian CWS receive timely, effective, and compassionate care that supports their communicative development and overall wellbeing.

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APPENDIX-A

Script of Treatment programs for mothers

Lidcombe program

The Lidcombe Program is a treatment to help young CWS. This program is primarily for children under six, but some older children can benefit too. This program is special because you, the parent, are the primary helper. A speech therapist will help you by guiding and teaching you, but you will be the one helping your child every day.

At home, you'll spend just 10–15 minutes, 2-3 times a day, playing simple speaking games with your child. During these games, you'll do verbal contingencies— giving short, kind feedback to help your child speak more smoothly. For example, when your child speaks without stuttering, you might say, "Wow, that was smooth talking!" or "I love how clearly you said that." If your child stutters, you will gently and calmly ask them to "try again," but only if they're comfortable. There are five different types of verbal contingencies. The focus is always on praise and encouragement, not pressure. You will be trained to rate the severity of your child's speech on a simple 1-to-10 scale to track progress and help guide therapy decisions.

The speech therapist will meet with you weekly at first, showing you exactly what to say and how to support your child in a fun, relaxed way. As your child's speech improves, the sessions become less frequent, but you'll keep checking in to make sure stuttering does not come back. The Lidcombe Program is about you, the parent, delivering treatment, helping your child build confidence and speak smoothly in a safe and loving environment.

Response Cost treatment

The Response Cost Program is a way to help young children reduce stuttering, and it is mainly carried out by a speech-language pathologist (SLP) during therapy sessions. The SLP works directly with your child in this program, using a simple a “system of earning and losing” to encourage smooth speech. Your child earns small rewards—like tokens, stickers, or points—for speaking smoothly, and if they stutter, the SLP gently takes one away. This is done calmly and supportively, so your child does not feel upset or pressured.

As a parent, you do not have to lead the program yourself. Instead, you follow what the SLP has done in the session. The therapist will show you how to praise your child for smooth talking and keep the same reward system at home in a short daily practice. This way, your child

gets the same gentle reminders and positive encouragement both in the clinic and at home, helping them learn smoother speech faster.

So, with Response Cost, SLP takes the lead, and you continue their methods at home for 10-15 mins daily to support your child's progress lovingly and consistently.

Semi-Structured Interview : Questionnaire

SECTION I

Parental readiness for Lidcombe program

Identification

1. Will you correctly identify any 'moments of stuttering'? ☐ Yes ☐ No, why :
2. Will you correctly identify 'stutter-free speech' or 'smooth speech'? ☐ Yes ☐ No, why :

Parent skill

3. Will you give verbal contingencies mostly for 'stutter-free speech' or 'smooth speech'?
☐ Yes ☐ No , why :
4. Will you use all five verbal contingencies or only those that are recommended by the clinician? ☐ Yes ☐ No, why :
5. Will you be able to give time to the Lidcombe treatment? ☐ Yes ☐ No, why :
6. Will you report using verbal contingencies as frequently as directed by the clinician?
☐ Yes ☐ No, why :

Consistency

7. Can you give time for practice sessions each day (10–15 minutes)? ☐ Yes ☐ No, wh
8. Will you be able to rate the severity of stuttering daily? ☐ Yes ☐ No, why :
9. Will you be able to visit the clinic weekly? ☐ Yes ☐ No, why :
10. Will you be able to record a video (10-15 min duration) of your child's speech daily? ☐
Yes ☐ No, why :

Challenges

11. Some common problems faced by mothers during the administration of the program include fitting therapy into daily routines, forgetting to implement treatment and managing siblings. Apart from these, are there any other challenges you will experience? Describe :
12. Mothers have reported experiencing emotions such as anxiety, guilt, distress and a sense of responsibility. Do you think you will experience any of these emotions, or any other emotional challenges? Describe :

Stage 2

13. Will you report continuing with verbal contingencies as recommended? ☐ Yes ☐ No.

If not, why :

14. Will you report withdrawing verbal contingencies systematically as recommended? ☐

Yes ☐ No. If not, why :

15. Will you continue to give verbal contingencies for stutter-free speech as recommended?

☐ Yes ☐ No. If not, why :

Parental readiness for Lidcombe program

Understanding

16. Do you understand that response Cost is a treatment approach which involves the removal of a token when the child stutters? ☐ Yes ☐ No , why :

17. How comfortable are you with providing reinforcement for fluent speech and corrections (token removal)at home? ☐ Yes ☐ No, why :

Consistency

18. Can you follow the response Cost at home during the practice session? ☐ Yes ☐ No, why :

19. What are the problems you face during the program delivery? Describe :

SECTION II

Confidence

1. Will you express confidence in identifying any 'moments of stuttering'? ☐ Yes ☐ No

If not, why :

No

Completely

Confidence

Confident

☐ 0% ☐ 10% ☐ 20% ☐ 30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90%
☐ 100%

2. Will you express confidence in identifying non- stutterer speech?

No

Completely

Confidence

Confident

☐ 0% ☐ 10% ☐ 20% ☐ 30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90%
☐ 100%

3. Will you express confidence in giving verbal contingencies when asked?

No Completely
 Confidence Confident
☐ 0% ☐ 10% ☐ 20% ☐ 30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90%
☐ 100%

4. How confident are you to deliver the Lidcombe program?

No Completely
 Confidence Confident
☐ 0% ☐ 10% ☐ 20% ☐ 30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90%
☐ 100%

5. Are you confident in reinforcing 'stutter-free speech' or 'smooth speech' and corrections for stuttering at home?

No Completely
 Confidence Confident
☐ 0% ☐ 10% ☐ 20% ☐ 30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90%
☐ 100%

6. How confident are you to deliver Response Cost treatment at home?

No Completely
 Confidence Confident
☐ 0% ☐ 10% ☐ 20% ☐ 30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ 80% ☐ 90%
☐ 100%

SECTION II

Parental preference- Lidcombe program or Response Cost

1. Do you believe therapy would be more effective if delivered by parents during daily conversation, or by a trained clinician in structured sessions? ☐ Yes ☐ No, why :
2. If given a choice, would you prefer being trained to conduct treatment yourself or attending regular clinical sessions for a Response Cost? ☐ Yes ☐ No, why :

Probing questions

- How will you manage fitting the treatment into your daily routines?
- What makes you feel confident or less confident in delivering treatment?
- How do you think you will manage responsibility while doing treatment?
- How do you feel emotionally about being responsible for part of your child's therapy?
- How do you usually cope when you feel stressed or pressured about your child's progress?
- What factors would influence your choice between home-based and clinic-based treatment?
- What situations do you think will be challenging during the delivery of treatment?
- What motivates you to take a role in your child's therapy?

APPENDIX-B

Calculated Content Validity Index (CVI)

SI. No	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Experts in agreement	I-CVI	UA
1	1	1	1	1	1	5	1	1
2	1	1	1	1	1	5	1	1
3	0	1	1	1	1	4	0.8	0
4	1	1	1	1	0	4	0.8	0
5	1	1	1	1	1	5	1	1
6	1	1	1	1	1	5	1	1
7	1	1	1	1	1	5	1	1
8	1	1	1	1	1	5	1	1
9	1	1	1	1	1	5	1	1
10	1	1	1	1	1	5	1	1
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18	1	1	1	1	1	5	1	1
19	1	1	1	1	1	5	1	1
20	1	1	1	1	1	5	1	1
21	1	1	1	1	1	5	1	1
22	1	1	1	1	1	5	1	1
23	1	1	1	1	1	5	1	1
24	1	1	1	1	1	5	1	1
25	1	1	1	1	1	5	1	1
26	1	1	0	1	1	4	0.8	1
27	1	1	1	1	1	5	1	1
28(V1)	1	1	1	1	1	5	1	1
29(V2)	1	1	1	1	1	5	1	1
Proportion relevance	0.96	1	0.96	1	0.96	S-CVI/Ave		0.98
							S-CVI/UA	0.93
Average proportion of items judged as relevance across five experts							0.98	

APPENDIX-C

Theme, Subthemes and Codes developed from dataset

Themes	Sub-themes	Codes
Identification of fluency patterns	Ease of identification	1. Effortless identification 2. More diligent and observant 3. Identify prolongations 4. Recognition of speech patterns 5. Comparative recognition 6. Easier identification 7. Identify pauses 8. Identify repetition 9. Identifies through self-correction 10. Differentiate fluency and disfluency
	Variability and complexity of stuttering behaviour	1. Situation dependent 2. Complexity dependent stuttering 3. Occasional stuttering occurrence 4. Calmness dependent

		5. Variability in dysfluencies 6. Influence of loudness 7. Individual variations 8. Based on rate
	Secondary behaviour aids identification	1. Holding breath 2. Closing eyes
Verbal contingencies for promoting fluency	Reinforcement of fluent speech	1. Supports fluent speech 2. Boost confidence 3. Encouraging fluent speech through praise 4. Improve speech 5. Improve awareness 6. Reduction of disfluent speech 7. Used often 8. Improvement 9. Reduction in stuttering using praise 10. Parental responsibility for child's speech improvement, 11. Commitment to improvement 12. Reduction in stuttering using praise

	Experience of using verbal feedback	1. Use of contingencies 2. Lack of experience
	Reliance on Therapist guidance	1. Adherence to clinician 2. Dependence on therapist guidance
	Flexible use of verbal contingencies	1. Selective simplification of techniques 2. Gradual implementation of strategy 3. Dependency on demand 4. Use of all verbal contingencies 5. Requirement basis
	Reluctance to use verbal contingency	1. Home usage only 2. Avoidance in social use 3. Avoiding pinpointing
	Positive impact on fluency and confidence	1. Encourages in positive way 2. Reduction in stuttering 3. Confidence built through reinforcement
	Continued use of contingencies	1. Contingent use based on fluency 2. Reduction in contingencies 3. Continuation of contingency 4. Avoid pinpointing

		5. Based on improvement 6. Partial continuation of verbal contingencies 7. Encouragement is essential 8. Continued reinforcement for child's benefit
	Systematic reduction of contingencies	1. Systematic reduction 2. Necessity 3. Gradual reduction 4. Prevent relapse 5. Decision based on speech 6. Based on progress 7. Decision based on fluency 8. Termination after self-control/self-correction 9. Termination after recovery
Parental readiness for therapeutic involvement	Willingness to dedicate time	1. Readiness to dedicate time 2. Difficulty to allocate time 3. Flexible scheduling 4. Make time 5. Make time despite work 6. Allotting time for therapy 7. Feasible daily practice,
	Parental accountability in performance monitoring	1. Influence of recording 2. Willingness to record

		3. Evaluate mother's and child's progress 4. Track the progress 5. To inform clinician 6. Choose technique 7. Shared responsibility 8. Inform about daily rating 9. Evaluate the performance
	Compliance to weekly visits	1. Willingness for giving 2. Geographical preferences 3. Time preferences
Implementation related challenges	Scheduling and routine management challenges	1. Professional commitments affect consistency
	Emotional reaction	1. Pity feeling 2. Emotionally low 3. Shift from emotional reactivity 4. Managing sibling 5. Responsibility 6. Stressed 7. Anxiety due to persistence 8. Minimal emotion reaction
	Practical challenges	1. Unpredictable stuttering nature 2. Distractions

		3. Require assistance to record Inconsistency questionable 4. influence of recording
	Management difficulties	1. Resistance to strict scheduling, 2. Flexible in different settings 3. Difficult in sharing responsibilities 4. Therapy scheduling conflicts 5. Sitting compliance, less concentration 6. Therapy scheduling conflicts 7. Preference for online 8. No perceived barriers 9. Managing siblings
Understanding of token economy principle	Perception on use of reward-based reinforcement	1. Understanding reward-system, 2. Encouragement 3. Balanced use of reward and consequences 4. Positive expectation of child's response

		5. Belief in effectiveness of reward systems
	Influence of reinforcement on fluency	1. Recognition of behaviour-correction strategy 2. Belief in behavioural motivation through reward 3. Negative influence of reward
Delivering Response Cost at home	Competency to deliver	1. Willingness to dedicate time for improvement 2. Hope for improvement 3. Dedicated to deliver program 4. Commitment to consistent implementation, 5. Agreement to follow protocol 6. Compatibility with daily schedule
Implementation related challenges	Environmental and contextual barriers	1. Limited access to reward 2. Limited feasibility 3. Unsuitable environment 4. Difficulty with reward preference

		5. Difficulty in managing other kids 6. Difficulty in consistency 7. Presence of distraction 8. Timing difficulties
	Behavioural and emotional challenges	1. Negative impact 2. Emotional challenges 3. Difficulty in consistency 4. Inconsistent practice, 5. Temperament and tantrum concerns 6. Adaptation based on child's mood and schedule 7. Sitting compliance 8. Concern about negative impact on child 9. Difficulty with reward preference 10. Emotional difficulty with withdrawal of reward, concern about negative impact on child 11. Minimal barrier perceived
Parental Preference	Parent led intervention	1. Parent led 2. Lidcombe seems practical,

	Therapist led intervention	1. Therapist-led 2. value for professional guidance 3. response Cost viewed as complex and demanding 4. Improve confidence 5. Improve concentration 6. Tangible reinforcement openness to professional intervention, 7. Limitation in time 8. Belief on therapist skills,
	Collaborative Approach	1. Value for professional guidance, importance of daily parental practice, collaborative 2. Need for collaborative approach 3. Both parent and clinician help 4. Recognition of therapist expertise, parental involvement 5. Recognition of both parent and clinician roles

