OVERALL ASSESSMENT OF SPEAKER'S EXPERIENCE OF STUTTERING-TEENAGERS: AN ADAPTATION AND ASSESSMENT ON ADOLESCENTS WHO STUTTER IN INDIAN CONTEXT

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CERTIFICATE

This is to certify that this dissertation entitled "**Overall Assessment of Speaker's Experience on Stuttering-Teenagers: An adaptation and assessment on adolescents who stutter in Indian context**" is a bonafide work submitted in part fulfilment for degree of Master of Science (Speech-Language Pathology) of the student Registration Number: 16SLP019. 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.

Mysuru

April, 2018

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CERTIFICATE

This is to certify that this dissertation entitled "**Overall Assessment of Speaker's Experience on Stuttering-Teenagers: An adaptation and assessment on adolescents who stutter in Indian context"** is a bonafide work submitted in part fulfillment for the degree of Master of Science (Speech-Language Pathology) of the student Registration Number: 16SLP019. This has been carried out under my supervision and guidance. It is also been 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 "**Overall Assessment of Speaker's Experience on Stuttering-Teenagers: An adaptation and assessment on adolescents who stutter in Indian context**" is the result of my own study under the guidance of Dr. Sangeetha Mahesh, Clinical Reader, Department of Clinical Services, All India Institute of Speech and Hearing, Mysuru, and has not been submitted earlier to any other University for the award of any other Diploma or Degree.

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Dedicated To My dear

“Mama”

With love- “I Miss You”

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CHAPTER I

INTRODUCTION

According to the World Health Organization (WHO, 1997), stuttering is a "disorder in the rhythm of speech in which the individual knows precisely what he wishes to say, but at the same time is unable to say it because of an involuntary repetition, prolongation or cessation of a sound". A recent view to look at the stuttering manifestation and its impact on an individual is given by Yaruss and Quesal (2004a, 2006). They held the International Classification of Functioning's perspective in mind and considered components of body function and structure, personal and environmental factors and activity/ participation as a framework for stuttering assessment and therapy.

The quality of life is defined as "the individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (WHO, 1997). Perkins (1990) introduced a factor to be considered in stuttering and that is the speaker's frame of reference, where how a speaker perceives his stuttering is also important. Criag, Blumgart, and Tran (2009) conducted a Medical Outcomes Study, Short Form-36 as a means of assessment of impact of stuttering on adults. They opined that stuttering negatively affects quality in the areas of vitality, social functioning, emotional functioning and mental status. The quality of life measures are very important and used for a variety of reasons. They can help the speech-language pathologists to assess the impact of intervention by comparing the pre- and post-treatment conditions. The speech-language pathologist may use the information provided by the results of the questionnaires to identify the areas in a person's life that need to be focussed in therapy for better generalization and maintenance. Using quality of life instruments therefore might help in contributing to the protocol for the assessment and treatment of stuttering (Bramlett, Boothe, & Franic, 2006).

Yaruss and Quesal (2006), designed the Overall Assessment of the Speaker's Experience of Stuttering (OASES) which analyses the overall quality of life and the impact of stuttering on individual's functioning in various domains such as social interactions, economic independence, and so forth. This is a new comprehensive tool which consists of 100 items, each scored on a 5-pt likert scale. This tool consists of 4 sections which are as follows (1) General Information (2) Reactions to stuttering (3) Communication in Daily Situations and (4) Quality of Life: This is available in 3 versions which include, OASES-A (Yaruss & Quesal, 2006) for adults (18 years and above); OASES-T (Yaruss, Coleman & Quesal, 2010) designed for adolescents/ teenagers (13-17 years) and the OASES-S (Yaruss & Quesal, 2010) for school-age children (7-12 years).

The Overall Assessment of the Speaker's Experience of Stuttering for adults (OASES-A; Yaruss & Quesal, 2006, 2010) is a patient-reported outcome measure that was designed to provide a comprehensive assessment of "*the experience of the stuttering disorder from the perspective of individuals who stutter*" (Yaruss & Quesal, 2006). A study by Koedoot, Versteegh, and Yaruss (2011b) aimed at translation of OASES in Dutch language. All sections of OASES-A-D were successful in differentiating participants with different levels of stuttering severity. Their results suggested that OASES-A-D was a reliable and valid instrument which could be used in order to assess the impact of stuttering on Dutch population of adults who stutter. Another study by Koedoot, Boumans, Franken, and Stolk (2011a) revealed that moderate to severe degree of stuttering had a negative impact on overall quality of life. Also, a study by Blumgart, Tran, Yaruss, and Criag (2011) established Australian normative data values for OASES-A version. The findings revealed that there were no significant relationships between OASES scores for gender, age and educational level of the participants. However, the participants with more severe stuttering had higher negative scores in the sections of '*General Information' and Communication in 'Daily*

Situations', and for *overall OASES score*. It was found that for all the databases, i.e, and Australian, American and Dutch mean scores of adults with stuttering fall predominantly in the moderate impact category.

In Indian context, a study done by Tanu and Pushpavathi (2013) using OASES aimed at observing the performance in varied group of adults with stuttering. They found that except for the total impact score, all the other sections had good reliability. Significant relation was found between SSI scores and OASES for sections II, IV and total impact scores. They also opined that OASES was helpful in discriminating between the individuals with very mild and mild, very mild and moderate, very mild and severe, mild and severe, moderate and severe stuttering. Correlation was found between Locus Control of Behavior scores and impact scores for section I, IV and total impact scores.

Need for the study: Stuttering is a multifactorial disorder and comprises of both the overt and the covert features which need assessment and therapy in order to make the individual's life better in terms of Communication and Quality of life. So, there is a need for us to know the subjective feelings and incorporate them in assessment and therapy which would have great impact on adolescent's self-imagery, self-worth, self-esteem and self-respect. The speech language pathologists should be aware of the consequences of the stuttering on the individual's life in terms of his family and social relationships and the problem faced by the individual in other situations of his daily living.

Researchers found that a group of adolescents began to see their stuttering as a hindrance and have also suggested that this age group is quite challenging because the teenage years often are characterized by emotional conflicts, fears and frustrations. They also found that these typical characteristics may be compounded by the anxiety and negative

consequences of stuttering. Therefore, in the adolescent age group it is quite important for the SLPs to assess the quality of life to help them communicate better.

To the best of our knowledge, OASES is not administered in Indian context among bilingual adolescents who stutter. So, OASES will be adapted to Indian context to assess the Quality of Life in adolescents who stuttering. The questionnaire would be adapted according to the needs of the client and a little flexibility in terms of rephrasing the questions would be allowed for improving the comprehensibility of the questionnaire. Therefore, this study will be carried-out using OASES to determine the impact of stuttering on bilingual Adolescents who stutter (AWS) & to have an insight about their feelings towards their problem. This would help the clinicians to have a better, global and comprehensive understanding of the disorder.

Aim of the study: The aim of the study was to investigate the impact of stuttering on the quality of life of bilingual adolescents who stutter (AWS) in Indian context.

Specific objectives of the study

1) To determine the test re-test reliability
2) Adaptation of OASES-T to Indian context
3) Analysis of total impact scores for sections (OASES-T) as a whole group
4) Analysis of each section of OASES-T across degrees of stuttering severity
5) Assessment of the overall impact of stuttering across degrees of stuttering severity

CHAPTER II

REVIEW OF LITERATURE

Stuttering can be identified as both a speech event and a disorder (Yairi & Seery, 2015). As a speech event, stuttering is an involuntary disruption of the smooth execution of a speaker's intentional speech act (Yairi & Seery, 2015). Overt speech characteristics are the most obvious outward aspects of stuttering, and these characteristics are what define stuttering as a speech event. Interruptions are displayed by PWS in the normal flow of speech in their respiratory, articulatory, and phonatory levels, and they also demonstrate repetitions, prolongations, or blocking of sounds and/or syllables (Yairi & Seery, 2015).

World Health Organization (1977) stated that stuttering is defined in the International Classification of Diseases as "disorders in the rhythm of speech, in which the individual knows precisely what he wishes to say, but at the time is unable to say it because of an involuntary, repetitive prolongation or cessation of a sound".

Also, Wingate (1964) gave definition as "The term 'stuttering' means: I. (a) Disruption in the fluency of verbal expression, which is (b) characterized by involuntary, audible or silent, repetitions or prolongations in the utterance of short speech elements, namely: sounds, syllables, and words of one syllable. II. Sometimes the disruptions are (e) accompanied by accessory activities involving the speech apparatus, related or unrelated body structures, or stereotyped speech utterances. III. Also, there are not infrequently (f) indications or report of the presence of an emotional state, ranging from a general condition of 'excitement' or 'tension' to more specific emotions. (g) The immediate source of stuttering is some incoordination expressed in the peripheral speech mechanism; the ultimate cause is presently unknown and may be complex or compound"

Starkweather (1999) points out efficacious therapy should deal with all levels of disorder because in many cases, the less observable features are often more important than the more obvious ones for the success of therapy.

Views about Stuttering

In defining fluency and its disorders, there has been a great deal of variety. Based on their experiences with people who stutter, researchers in this area have defined stuttering differently according to their own perspectives and views. The same is reflected in the traditional assessment and therapy protocols being followed all over the globe to handle the persons with stuttering.

The definition of stuttering is depended highly on individualistic opinions, thus it resulted in avoiding the holistic view of stuttering. Starting from first half of the 20th century, stuttering came to be known as associated with change in handedness in some way and "Cerebral Dominance" theory of stuttering emerged (Travis, 1931). Stuttering has also been associated with emotional maladjustment by Glasner (1949). Johnson in the 1950's had put forth the view according to which, stuttering results due to acquired learning characteristics because of which the person anticipates stuttering in special circumstances. In the first half of the 20th century, various studies reported the cause of stuttering to be emotional, psychometric and behavioral disturbances (Brill, 1923; Brown, 1932; Fisher, 1970). Then came into light the psychopathological view of the disorder (Glauber. 1958). The main factors considered were fear, anxiety, feeling inferior in terms of social relationships. Perkins (1990) introduced another factor to be considered in stuttering and that is the speaker's frame of reference, where how a speaker perceives his stuttering is important. A more recent view to consider stuttering manifestation and its impact on an individual is given by Yaruss and Quesal (2004 & 2006). They proposed the view based on ICF perspective and considered the

components of body function and structure, personal and environmental factors and activity participation as a framework for defining, assessing and treating stuttering.

Impact of Stuttering

Stuttering has profound effects on daily living of an individual, his participation in social events and also on his surrounding environment. This disorder has the strength to render an almost natural task of speech as a difficult activity. This leads to ineffective communication which is not acceptable to human beings of any culture or belief invariably.

Researches done in view of effects of stuttering using personal reports, biographical collection, and empirically motivated research highlight the fact that people with stuttering experience feelings of embarrassment, shame, and anxiety. They mostly face difficulty in communicating their ideas. They have a sense of dissatisfaction with their life due to stuttering which is hidden within themselves (Ahlbach& Benson, 1994; Carlisle, 1985; Corcoran & Stewart, 1998; Craig, Blumgart& Iran, 2009; Jezer, 2003; Klompas& Ross, 2004; Manning, 1999; Manning, 2010; Shapiro, 1999; St Louis, 2001; Yaruss&Quesal, 2006, 2002).

Joss (1993) conducted a study on children with stuttering. He assessed drawings of this population as an attempt to reach their thoughts and feelings. Participants drew images in some iconic form which represented their stuttering. The participants could draw and describe these images which indirectly assessed their ideas about their stuttering. The findings suggested that majority of them viewed stuttering as an undesirable experience. Subsequently, Pistorius (1994) investigated the conceptualization of stuttering in some adults and adolescents with stuttering through drawings. The findings reflected feelings of discomfort, restriction and anxiety.

A study by Corcan and Stewart (1998) on eight adults with stuttering, aimed at performing a qualitative analysis that investigated the meaning, persons with stuttering give to their experiences of stuttering. This was done by asking them to narrate about their stuttering. They assumed that these stories would give an insight about how stuttering has been associated with various phases of their lives. Also the impact of stuttering on their personal relationships and important choices they make in their life would be known. The authors had thought that knowledge gained from this study would increase the effectiveness of therapy by considering each individual separately taking into account their unique experience of stuttering. An initial 60-90 minutes interview was by answering to open-ended questions and probes. And thus, the narratives obtained were analyzed by an investigator for the possible theme that reflected in what way stuttering had an impact on lives of these individuals. A second 60-minute interview was also conducted to assess the credibility of interpretation of these experiences. Results revealed that persons with stuttering had suffering as the primary theme. This suffering resulted from their core experience of being blocked and obstructed and was characterized by four key elements: (a) helplessness, (b) shame (c) fear, and (d) avoidance. The emphasis of the authors was the clinical implication as a need to establish and maintain good and positive clinician-client relationship as important and crucial element in the relief of suffering.

Zhang and Kalinowski (2004) examined the listener's perception of shame- and guilt-proneness of persons who stutter (PWS) as compared to that of normally fluent individuals. A Test of Self-Conscious Affect-Version 3 (TOSCA-3; Tangney, et al., 2000), which is a scenario-based self-report questionnaire was used in the current study and it measured six social emotions, including shame, guilt, externalization, detachment/unconcern, alpha pride ("pride in self"), and beta pride ("pride in behaviour"; Tangney, et al., 2000). This study consisted of 62 African-American and 60 Caucasian college students in a Southeast city of

USA as participants. They were requested to rate the responses on a 5-point scale. The results revealed that the both African-American and Caucasian participants perceived PWS were more prone to shame compared to normally fluent individuals. Also, Caucasian participants scored higher on both shame- and guilt-proneness measures when compared to African-American participants. And they also found that there was no significant interaction effect fluency and race. The authors suggested that stuttering was tightly related to shame because stuttering is perceived as an internal, inseparable component of self that defined a Person with Stuttering and stuttering is not as much related to guilt because stuttering is not perceived as an isolated speech act that happens haphazardly.

Blood, Blood, Maloney, Mayer, and Qualls (2006) studied the anxiety in 36 adolescents who stutter (AWS) and 36 adolescent who do not stutter (AWNS) using standardized scale for anxiety Revised Children's Manifest Anxiety Scale (RCMAS) and self-esteem, Rosenberg Self-Esteem Scale (RSES). Their results proclaimed that AWS demonstrated higher level of anxiety than the AWNS and high-positive correlation between self- esteem and level of anxiety were found in both the groups. AWS and AWNS with higher levels of anxiety also scored lower on the general self-esteem scale.

Erickson and Block (2013) investigated the social and communication impacts of stuttering on Australian adolescents under treatment for stuttering and their families. 36 adolescents who stutter were tested using questionnaires assessing the self-perceived communication competence and apprehension, stigma and disclosure, and experiences of teasing and bullying. Results revealed that the adolescents who stutter had below average self-perceived communication competence, heightened communication apprehension and were teased and bullied more often than fluent peers, and they try to keep their stuttering secret. And the families of these individuals also reported high levels of emotional strain, family conflict and had difficulty in managing their child's frustration.

Influence of Bullying/ teasing on Adolescence with stuttering (AWS)

Manning (2001) views "Adolescence" as a halfway epoch of physical and psychological human development generally occurs during the period from childhood to legal adulthood and considered to be important developmental period which is exemplified by emotional conflicts that probably interact with the negative attitudes associated with stuttering. Lower levels of peer support and acceptance have been reported in socially anxious adolescents. From the study carried out by La Greca and Lopez (1998), Voci, Beitchman, Brownlie and Wilson (2006) reported that lower levels of peer support and acceptance in socially anxious adolescents.

Bullying, peer rejection, and victimization during adolescence are problems that lead to serious, negative long-term outcomes (Garbarino&deLara, 2002; Garrett, 2003; Geffner, Loring, & Young, 2001; Olweus, 1993; Rigby, 1997; Thompson, Arora, & Sharp, 2002). Research reports from interviews of bullies about their "targets" suggest that they mark students who are perceived as cautious, anxious, quiet, passive, withdrawn, unassertive, insecure, and unhappy (Byrne, 1994; Olweus, 1993). Students with mild and moderate disabilities are also at high risk for bullying (Dawkins, 1996; Sweeting & West; 2001; Wilde & Haslam, 1996). Peer rejection may lead to loneliness, depression, poorer academic performance, lower self-esteem, aggression, withdrawal, irritability, an increased likelihood of antisocial behavior, and high risk for victimization and bullying (Parker & Asher, 1987, 1993; Pope & Bierman, 1999).

Quality of Life

Stuttering can have negative impact on quality of life in the domains of social and emotional functioning and mental health (Craig, Blumgart, & Iran, 2009). The authors conducted the study using SF-36 to measure effect of stuttering on quality of life of adults who stutter who sought out therapy for stuttering. The findings were compared with the people who do not stutter to have an estimate of possible negative impact stuttering may have on their quality of life. The method involved using Short Form-36 on 200 adults with stuttering. The results were compared with another 200 individuals with no stuttering of similar age and sex ratio. Results revealed that stuttering has a negative effect on quality of life in the domains of vitality, social functioning, emotional functioning and mental health status. Results also suggested that persons with stuttering with high severity levels had higher risk of poor emotional functioning. Thus, the authors focused on modifying therapy programs which include provisions to consider the emotional and psychological aspects related to quality of life in persons with stuttering.

Klompas and Ross (2004) studied the life experiences of a group of adults with stuttering from South African and the impact of stuttering on their quality of life. They considered 16 adults in the age range of 20-59 years as subjects in their study. The participants were interviewed to explore their life domains pertaining to education, employment, social life, speech therapy, beliefs, social life, family and marital life, and emotional issues. Their findings revealed that 62.5% of the participants had opinioned that stuttering had a negative impact on their academic performance at school and was also affecting their relationship with teachers and classmates. Although, stuttering did not influence their ability to establish friendship (56.25%), people reacted negatively to stuttering generally (37.5%). 75% of the participants felt that stuttering did not have any adverse effect on the choice of occupation which they make, ability to get a job (50%) and relationships

with managers (43.75%) and co-workers (31.25%). however, it influenced their work performance (37.5%) and hampered their chance of promotion (37.5%). More than half of the participants had opined that speech therapy positively influenced their quality of life. Stuttering did not influence participants' family and marital life (56.25%). Most of the participants reported that stuttering had affected their self-esteem and self-identity (87.5%). The investigators stress on the need of including these subjective feelings about stuttering into the daily clinical practice.

Stuttering and OASES

Impact of stuttering on adolescents individuals who stutter experience a variety of cognitive reaction such as low self-esteem, diminished self-confidence, and reduced feeling of self-efficacy and affective or emotional reaction such as clumsiness, tension, fear, shame, guilt, anger, loneliness, inadequacy and other emotions accompanying stuttered speech. The studies are majorly focused on adults in studying emotional and cognitive reaction in individuals who stutter, with limited investigation in children and even less in adolescents. However, findings from empirical research on this population have been less than consistent Reviews of research explored in the field of stuttering and its impact on individual's life, with respect to present study are as follows,

Beilby, Byrnes, and Yaruss (2012) investigated the impact of stuttering on western Australian children and adolescent using Overall assessment speaker's Experience of stuttering for teenagers (OASES- T) and children (OASES-S) proposed by Yaruss and Qucsal in 2006, 2010 and correlation of negative impact and stuttered speech frequency as a measured by percentage syllable stuttered (%SS). The study consisted of 95 young people with stuttering, out of which 50 children in the age range of 8 to 11 years and 45 adolescents in the age range of 12 to 17 were included. Each of the children and adolescent stuttering

group consisted of 50 children and 45 adolescent who do not stutter with the age and gender matched to the individuals in the stuttering group. They used modified version of original OASES that was adapted for use of children and adolescents who stutter. The impact of stuttering was measured under 4 sections. Section I (general information), Section II (reactions), Section III (communication in daily situations), and section IV (quality of life). Overall, each version consisted of 100 questions, scored on 5-point rating scale, with lower score indicating lesser negative impact. Adapted test was administered on children and adolescents with and without stuttering and conversational speech samples were elicited and recorded for each person. Results revealed that children and adolescents who stuttered experienced greater negative impact on their lives and also found that positive correlation between percentage syllable stuttered and reaction towards stuttering, self- perception of stuttering, difficulties in daily communication and quality of life.

In Western context, Craig, Blumgart, and Iran (2009) opined that individuals with stuttering experience more negative reactions that in turn affect the quality of life in the domains such as vitality, social functioning, emotional functioning and mental health status. Also it is suggested that people who stutter with increased levels of severity may have a higher risk of poor emotional functioning. Franken and Stolk (2011a) concluded that moderate to severe degree of stuttering had an adverse impact on overall quality of life. Blumgart, Tran, Yaruss, and Craig (2012) established Australian normative data values for the OASES-A version. The findings revealed no significant correlation between OASES scores for gender, age and educational level of the participants. However, the participants with more severe stuttering had higher negative scores for the sections such as General Information, Communication in Daily Situations and for the overall OASES score. It was also found that for all the three datasets, i.e., Australian, American (Yaruss&Quesal, 2006) and Dutch (Koedoot, Versteegh, &Yaruss, 2011), mean scores of adults with stuttering fell

predominantly in the moderate category. For the Australian and USA datasets, the main area of impact, based on the highest mean score, was for the ‘Reaction to stuttering’ domain, suggesting that the emotional and psychological burden associated with stuttering can be substantial suggesting that additional research is needed to clarify these possibilities. In any case, the Australian normative dataset, along with the existing two international datasets, provide important therapeutic information for clinicians who treat people who stutter and who wish to assess outcomes.

An Indian study by Tanu and Pushpavathi (2013) used original version of OASES. The study consisted of 31 adults with stuttering within the age range 18-30 years. The scores of the OASES were compared against various variables like educational status, employment, SSI and LCB. Results revealed that majority of the subjects had moderate impact rating as total impact rating (51.6%) which is followed by mild to moderate (22.6%), moderate to severe (19.4%) and the least was mild (6.5%) and significant correlation between effects of OASES (Section I; General information, Section IV; Quality of Life and total score) and Locus of Control of Behavior. However, there was no significant relation between educational status and employment of the participants on their performance on OASES.

It is important for us to know how stuttering would have an impact towards the individuals’ growth and therefore, it is important for us that the negative attitudes and the covert behaviors of the individual are identified and a timely assessment is done before providing therapy using a comprehensive tool like OASES for betterment of quality of life and also to give the individual a feedback about his own perspectives before and after therapy.

CHAPTER III

METHOD

Participants

30 bilingual AWS in the age range of 13-17 years were considered for the study.

Inclusion Criteria: The following guidelines were adapted to include the participants in clinical group.

- Diagnosis of Stuttering: Participants were required to be diagnosed with stuttering by a qualified speech-language-pathologist based on formal assessment using Stuttering Severity Index (SSI-3; Riley, 1994). Their severity ranged from mild to severe degree.
- Age range of 13-17.11years was considered.
- Language: Bilingual adolescents having their native language as Kannada and second language as English (having a proficiency rating of '3' indicating as good in LEAP-Q)
- Right Handed individuals were considered for the study.
- Mid-socio-economic status
- Speech therapy: Participants were considered prior to attending therapy. However, those who had availed therapy were also included depending on the availability and were analyzed accordingly considering the degree of stuttering.
- The ethical consent from the participants was taken before considering them for the study. The participants were explained regarding the objectives of the study. Further, a consent form for participation was provided. The experiment was initiated only after availing consent from participants.

- Also, consent was also taken from the authors to adapt the original questionnaire and consider it in our study.

Exclusion Criteria

Participants with the history of neurological, psychological, hearing and any other medical problems except stuttering were not considered for the study.

Materials used

- Stuttering Severity Index-3 (Riley, 1994)
- Language Experience and Proficiency Questionnaire (LEAP-Q, 2009)
- NIMH socio-economic status scale (Venkatesan, 2011)
- Overall Assessment of Speaker's Experience on Stuttering-Teenagers (Yaruss, Quesal& Coleman, 2010)

Procedure: The experiment included 3 phases;

Phase I: Adaptation of OASES-T to Indian Context

Phase II: Administration of SSI, NIMH and LEAP-Q

Phase III: Administration of adaptedOASES-T

PHASE I: Adaptation of OASES-T to Indian Context

OASES: *Overall Assessment of Speaker's Experience on Stuttering-Teenagers* was used which was originally developed by Yaruss and Quesal (2006) which is a self-rating questionnaire. OASES for adolescents is divided into 4 sections consisting of 80 questions in total wherein, Section I is General Information which contains statements i.e., 15 questions related to participants' awareness of his own speech naturalness and fluency, their knowledge about stuttering in general etc.

Section II- Reactions to stuttering has 25 questions covering the affective, behavioral and cognitive reactions of participants towards their stuttering. Section III-Communication in daily situations consists of 20 questions which explore the difficulty faced by persons with stuttering in different situations. Section IV-Quality of Life contains questions focusing on interference which stuttering has with participants' ability to communicate satisfactorily in society, ability to perform job adequately, spiritual well-being and control on his/her own life.

Validation of OASES-T to Indian Context: The original OASES-T was validated by 5 certified Speech-Language Pathologists from AIISH Clinic having a minimum experience of five years and also by 5 adolescents who stutter for the purpose of adaptation of OASES-T to Indian context in bilingual AWS. The certified Speech-language pathologists and were informed to rate on a 3-point rating scale (0, 1, 2) for each sub-section based on Question's simplicity (0- difficult, 1-fairly simple, 2-simple), Suitability to Indian context (0-not at all suitable, 1-fairly suitable, 2-suitable) and also the Comprehensibility to adolescent (0- not at all comprehensive, 1- partially comprehensive, 2- completely comprehensive). Based on the ratings and inputs that were obtained from the experts and the teenagers with stuttering, the Content Validity Index (CVI) was calculated for further judgment about the items of the questionnaire. CVI was calculated for each question in the original scale-T based on the average score obtained by the five speech-language pathologists and the adolescents who stutter. The content validity index was calculated using the following formula:

$$\text{Content validity index} = \frac{\text{Number of speech-language pathologists and AWS who rated the item as either 1 or 2}}{\text{Total number of speech-language pathologists and AWS}}$$

The questions with an average score more than 0.8 were included whereas, a score less than 0.8 were rejected. Here the value of 0.8 was considered as being significant based on Indian study by Bajaj, Vargese, Bhat and Deepthi, 2014. Finally, validation of the same was done by giving the adapted questionnaire to the speech-language pathologists and adolescents who stutter and they were asked to rate the adapted questionnaire based on the same parameters to suit the Indian context. The test items in the OASES-T were modified /rephrased after considering the CVI. Further, the modified test statements were subjected to a linguist for analysis of meaningfulness with regard to original statement.

PHASE II: Administration of SSI, NIMH and LEAP-Q

- Stuttering Severity Index-3; (Riley, 1994) was used for diagnosing stuttering. Based on the frequency, duration, physical concomitants and total score obtained by the participant the degree of severity was to be noted.
- NIMH scale revised version (Venkatesan, 2009) was used to determine the socio-economic status of these participants. It consists of four sections related to family: a) Pooled Monthly Income b) Highest Education, c) Occupation d) Family properties. Each section consists of 5 questions ranging from 1 to 5. For interpretation, all the scores are summed up and compared with the normative values (SES1= 0-4; SES2= 5-8; SES3= 9-12; SES4= 13-16; SES5= 17-20). The individuals with mid-socio-economic status were considered in the present study.
- LEAP-Q: Language Experience and Proficiency Questionnaire (LEAP-Q, 2009) questionnaire is a self-rating scale, which was originally developed by Marian, Blumenfeld, and Kaushanskaya (2007). This questionnaire was adapted and validated to Kannada speakers by Ramya (2009), which was used in the present study. This

bilingualism assessment tool considers language history, function, proficiency, accent and affect in each language. Participants rate their language proficiency in all the four skills: Understanding, Speaking, Reading and Writing. Each question has 1-4 rating, where '1' -zero proficiency, '2'-low, '3'-good and '4'-native like/ perfect proficiency.

PHASE III: Administration of adapted OASES-T

The administration procedure was initiated with a 5-min session of rapport building with the participant in which questions about their family, education and views about their problem were noted. The participant was made to sit comfortably in proper lighting conditions. The adapted OASES questionnaire was given to the participant and was instructed to read all the questions given carefully, and mark their answers accordingly on the questionnaire in a 5-pt rating scale as 1, 2, 3, 4, 5 which has different ratings according to the type of questions in each section and the sub-sections. Ratings such as 1-always, 2-often, 3-sometimes, 4-rarely and as 5-never and 1-a lot, 2-often, 3-some, 4-rarely, 5-nothing and 1-very good, 2-good, 3-not good or bad, 4-bad, 5-very bad or 1- never, 2-rarely, 3-sometimes, 4-often, 5-always and 1-never, 2-rarely, 3-sometimes, 4-often, 5-always or 1-strongly disagree, 2-somewhat disagree, 3- neither disagree nor agree, 4- somewhat agree and 5-strongly disagree, 1-not at all hard, 2-not very hard, 3-somewhat hard, 4-very hard, 5-extremely hard and 1-not at all, 2- a little, 3-some, 4-a lot, 5-completely. In case of any difficulty, the participant was instructed to seek assistance by the examiner, i.e, an SLP would be assisting the participant during the administration. The questionnaire was also e-mailed to 5 participants based on their convenience and if the adolescent with stuttering had any difficulty in answering any of the questions, those were to be highlighted and later the clinician assisted them in answering. The repetitions of the questions were allowed for better understanding.

Scoring

The total impact scores for each of the four sections on the OASES-T were calculated by summing the number of points in each section and then counting the number of items completed in each section. Then, the total numbers of points were divided by the number of items completed to obtain the Impact Score. Then, the Overall Impact Scores were obtained by summing each of the columns individually obtained (Impact scores for all the four sections-column I; Total no of questions attempted for all the four sections: Column II). Then, the sum of first column was divided by the sum of second column and the Overall Impact scoring was obtained. Impact score ranges between 1.0 to 5.0. The Impact Rating that corresponds to the score for each section and for the Overall Impact Score is to be circled. Table 1 represents the impact rating and score of OASES-T.

Table 1

Impact rating and scores of OASES-T (Yaruss & Quesal, 2006)

Impact Score	Impact Rating				
	Score 1.00-1.49	Score 1.50-2.24	Score 2.25-2.99	Score 3.00-3.74	Score 3.75-5.00
Section I: General Information	Mild	Mild-Moderate	Moderate	Moderate-Severe	Severe
Section II : Speaker's reaction	Mild	Mild-Moderate	Moderate	Moderate-Severe	Severe
Section III : Daily communication	Mild	Mild-Moderate	Moderate	Moderate-Severe	Severe
Section IV : Quality of Life	Mild	Mild-Moderate	Moderate	Moderate-Severe	Severe
Overall Impact:	Mild	Mild-Moderate	Moderate	Moderate-Severe	Severe

CHAPTER IV

RESULTS AND DISCUSSION

Statistical Analyses

The statistical analyses were done using SPSS (version 20.0) software. The below mentioned statistical analyses were performed:

1. Test-Retest reliability
2. Shapiro Wilks test was done to test for normality of the data. The data followed normal distribution for all the four sections on the adapted OASES-T and across varying degrees of severity of stuttering. Therefore, the following parametric tests were used.
3. Chi-square test of association was used to check the association between the section scores of adapted OASES-T and stuttering severity.
4. Descriptive statistical analysis including mean and standard deviation of the scores of Adapted OASES-T and stuttering severity.
5. One-way ANOVA was done to get the overall impact score.

The result of the study aimed at finding the impact of the stuttering on the quality of life in adolescents who stutter. OASES-T was administered on 30 participants distributed equally under the mild, moderate and severe degrees of stuttering and the results of the present study are discussed as follows

6) To determine the test re-test reliability
7) Adaptation of OASES-T to Indian context
8) Analysis of total impact scores for sections (OASES-T) as a whole group
9) Analysis of each section of OASES-T across degrees of stuttering severity
10) Assessment of the overall impact of stuttering across degrees of stuttering severity

1) Investigating the test re-test reliability of OASES-T

The current study aimed at exploring the test-retest reliability of OASES-T. The questionnaire was administered on 10% of the participants, 3 adolescents who stutter post initial week of first administration to judge for reliability of the questionnaire. The Cronbach's Alpha coefficient (α) obtained for all the 4 sections of OASES-T and a good reliability for all the 4 sections were found which are represented in table 2.

Table 2

Cronbach's alpha coefficient for test-retest reliability of adapted OASES-T

Sections of OASES-T	Cronbach's Alpha coefficient(α)
Section I	0.980
Section II	0.788
Section III	0.799
Section IV	0.781
Overall	0.788

The Cronbach's coefficient was good for all the four sections of the adapted OASES-T as it was above 0.70. Aparajitha etal. (2013), stated that the probable reason for good reliability could be because the participants were well instructed and cross-checking the responses in case of any doubt. In current study, the reliability is good may be due to the fact that the questions were adapted and simplified according to the inputs given by the Speech-language pathologists and adolescents who stutter and also, because of the assistance provided by the examiner in case of any difficulty in understanding any of the questions.

2) Adaptation of OASES-T to Indian context

Overall Assessment of Speaker's Experience on Stuttering-Teenagers was used which was originally developed by Yaruss and Quesal (2006). It is a self-rating questionnaire for adolescents divided into 4 sections consisting of 80 questions in total wherein, Section I is General Information which contains statements i.e., 15 questions related to participants' awareness of one's own speech naturalness and fluency, their knowledge about stuttering in general etc. Section II- Reactions to stuttering has 25 questions covering the affective, behavioral and cognitive reactions of participants towards their stuttering. Section III-Communication in daily situations consists of 20 questions which explore the difficulty faced by persons with stuttering in different situations. Section IV-Quality of Life contains questions focusing on interference which stuttering has with participants' ability to communicate satisfactorily in society, ability to perform job adequately, spiritual well being and control on his/her own life.

Here the original OASES-T was validated by 5 SLPs from All India Institute of Speech and Hearing having a minimum experience of five years and also by 5 adolescents who stutter for the purpose of adaptation of OASES-T to Indian context in bilingual AWS. The certified Speech-language pathologists and the adolescents who stutter were informed to rate on a 3-point rating scale (0, 1, 2) for each sub-section of the four sections of OASES-T based on Question's simplicity (0- difficult, 1-fairly simple, 2- simple), Suitability to Indian context (0-not at all suitable, 1-fairly suitable, 2-suitable) and also the Comprehensibility to adolescent (0- not at all comprehensive, 1- Partially comprehensive, 2- completely comprehensive). Based on the ratings and inputs that were obtained from the experts and the teenagers with stuttering, the Content Validity Index (CVI) was calculated for further judgment about the items of the questionnaire. CVI was calculated for each question from the

original scale based on the average score obtained by the five speech-language pathologists and the adolescents who stutter.

The questions with an average of more than 0.8 were included as it is whereas; the questions with a score of less than 0.8 were rejected. Here the value of 0.8 was considered as being significant based on Indian study by Bajaj, Vargese, Bhat, and Deepthi 2014. So, the questions which had CVI score of <0.8 were Q37 and Q72 from the original questionnaire, which were modified as Q37 ("People should do everything they can do to **keep themselves away from stuttering/ avoid stuttering"**) and Q72 (**Your ability to get married**) Also, few inputs given by the SLPs were considered for rephrasing few of the questions in the questionnaire, which includes Q3 , Q4, Q7, Q8, Q9, Q10, Q26, Q43, Q44, Q50, Q60, Q61, Q64, Q65, Q67, and Q70. Then, all these questions were verified to check similarity w.r.t meaning between original and adapted questionnaire by linguist. The modified statements are highlighted in **Bold** which are as follows:

Section I: General information; subsection A: Q3 (How consistently are you able to maintain fluency **from daily?** Instead of *'day to day'*, as it sounds easier), Q4 [How often do you use techniques or strategies you **learnt** in speech therapy? (If you have not had speech before, check "Not applicable")], subsection C: Q7 (The techniques or tools you have **learnt** in speech therapy"), Q8 (**Yourself** being a teenager who stutters), Q9 (**Yourself** being called a person who stutters by other people), Q10 [**Any support or self-help groups provided which support/assist teenagers who stutter** (groups for people to get together to talk about stuttering)], *Section II:Reactions to stuttering;* subsection B: Q26 (**Talk on behalf of you**), subsection B: Q43 (Talk to your teachers or **Seniors**), Q44 [Talk in situations outside the class (e.g. free time, in the **canteen**, or at assemblies)], Q50 [Order food (e.g. sin a restaurant or **Shop**)], *Section IV:* Communication in Daily Situation subsection B: Q60 (Your ability to succeed **at school** Or **college**), Q61 (How many **friends you make**), subsection C: Q65

(Replaced as-**to go for higher studies**), Q67 (**Your ability to get married**), D: At school **Or college)** were rephrased [Appendix I]

The need for rephrasal necessitated when, SLPs and the Adolescents who stutter were given the original questionnaire OASES-T for validation, before adapting them to Indian context and they reported of few questions being difficult. Among 80 questions, Q37 and Q72 had obtained a content validity score of <0.8, and thus was not clearly understood and therefore, they were subjected to rephrasing by the linguist whereas, rest of the questions which were subjected to rephrasing were taken-up based on the inputs given by the Adolescents who stutter and SLPs who suggested rephrasal as there were certain grammatical errors in couple of questions (e.g. The techniques or tools you have *learned* in speech therapy as The techniques or tools you have *learnt* in speech therapy) and few others they felt that it would be more convenient if the questions were rephrased or shortened to suit the Indian context (e.g. How often you go on *dates* or social events as *Your socialization with people at social events.* Here as *dates* are not be so applicable to Indian context) and also, some other questions which were not understood by the adolescents were also subjected to rephrasing (e.g. Let other people *talk for you as Talk on behalf of you).* Also, in an Indian study by Aparajita etal., (2011) conducted a study on adults with stuttering using *Overall assessment of speaker's experience on stuttering-Adult (OASES-A)* stated the limitations of her study that the original questionnaire designed for adults had certain technical terminologies which were difficult to understand by Indian adults. Therefore, the need for validating and also adapting the original OASES-T questionnaire was planned as it would be difficult even for the adolescent population if the original questionnaire is used directly.

3) Analysis of total impact scores for subsections (OASES-T) as a whole group

The impact scores for each section were obtained by summing the total items answered by the participant in the questionnaire under each section and the analysis of the same was performed shown in table 3.

Table 3

Mean scores and standard deviation (SD) for all the four sections of the adapted OASES-T

Sections of OASES-T	Mean	Standard deviation
Section I	3.00	0.30
Section II	2.58	0.62
Section III	2.57	0.69
Section IV	2.47	0.85

The findings suggest that as a whole group the Adolescents who stutter had moderate-severe impact rating under *Section I: General Information.* Further, a moderate impact rating was found. The clinical group consisted of 10 mild, 10 moderate, 10 severe varying degrees among adolescents who stutter. Though the group had equal no. of participants under each of the degrees of severity, Section I: General Information; awareness about stuttering was found to have moderate-severe impact. The finding implies that as overall group >50% of the participants have knowledge about their stuttering. Under *Section II: Reactions to stuttering,*

Section III: Communication in Daily Situations and Section IV: Quality of Life; had moderate impact rating. With regard to Section II, III & IV, almost 50% of the participants are highly emotional, have low confidence and 50% of the participants have difficulties in communicating in their daily living and 50% of the participants have interference in their daily activities such as negative feelings in various situations, during various life events like social gatherings, at school/colleges hindering their opportunities in leading life successfully.

Boey, Heyning, Wuyts, Heylen, Stoop and Bodt (2009) investigated about the number of stuttering children, aware of their speech difficulty, the description of reported behavioral expression of awareness and the relationship with age-related variables and with stuttering severity in the age range of 2-7years. They found that awareness was 56.7% for very young children (i.e., 2 years old) and gradually increased with age up until 89.7% of the children at the age of seven. Therefore, it can be opined that the adolescents would have better awareness.

4) Analysis of OASES-T across degrees of stuttering severity

The mean scores for each section of the questionnaire and the scores across varying degrees of stuttering severity of the adolescents who stutter obtained are shown in table 4.

Table 4

Mean and SD for subsections (OASES-T) across degrees of severity

Sections of OASES-T	Stuttering Severity	Mean	SD
Section I	Mild	2.78	0.21
	Moderate	3.10	0.19
	Severe	3.13	0.35
Section II	Mild	2.36	0.06
	Moderate	2.39	0.48
	Severe	3.00	0.61
Section III	Mild	2.31	0.81
	Moderate	2.42	0.58
	Severe	3.00	0.50
Section IV	Mild	1.94	0.83
	Moderate	2.41	0.65
	Severe	3.06	0.72

The findings suggest that as the severity of stuttering increased, the mean scores also increased in each of these sections. It implies that as the stuttering severity increases the negative impact on the individual with stuttering increases. Figure 1. represents the mean score of Section I (OASES) across severity of stuttering where x-axis is stuttering severity and y-axis the impact score.

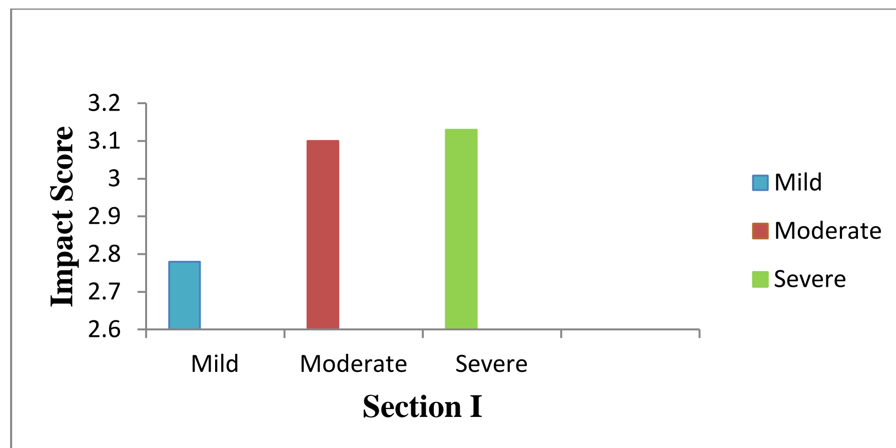

Figure 1. Mean scores of Section I on adapted OASES-T

In Section I, *General Information;* the adolescents with mild stuttering had lesser mean scores when compared to that of moderate and severe categories. The findings reveal that as the stuttering severity increased, the mean value for section I also increased suggesting a positive-correlation between stuttering severity and section I scores (OASES-T). Majority of the participants with milder degree of stuttering had moderate impact rating (2.78) on Section I of the adapted OASES-T whereas, participants with moderate and severe degrees of stuttering severity had moderate-severe (3.10, 3.13) implying that the severe group had more awareness about their problem which was affecting their daily communication and also had a greater negative impact about their speaking abilities and themselves being called as individuals with stuttering when compared to mild and moderate categories. The probable reason for such findings could be that the severe and moderate degree of individuals with stuttering more frequently and hence are aware of their problems. Chi-square test of

association shows that there is significant association between general information and stuttering severity [$\chi 2$ (2) = 7.5, $p < 0.05$]. Table 5 represents the results of chi-square test.

Table 5

Results of Chi-square test for Section I

Test	Chi-Value	*p*-value
Pearson Chi-square	7.500	0.024*

Note. * = $p \leq 0.05$

In Section II: *Reactions to Stuttering;* the findings reveal that in Section II the mean scores are higher for adolescents with severe stuttering. Figure 2 represents the mean score of Section II (OASES) across severity of stuttering where x-axis is stuttering severity and y-axis the impact score.

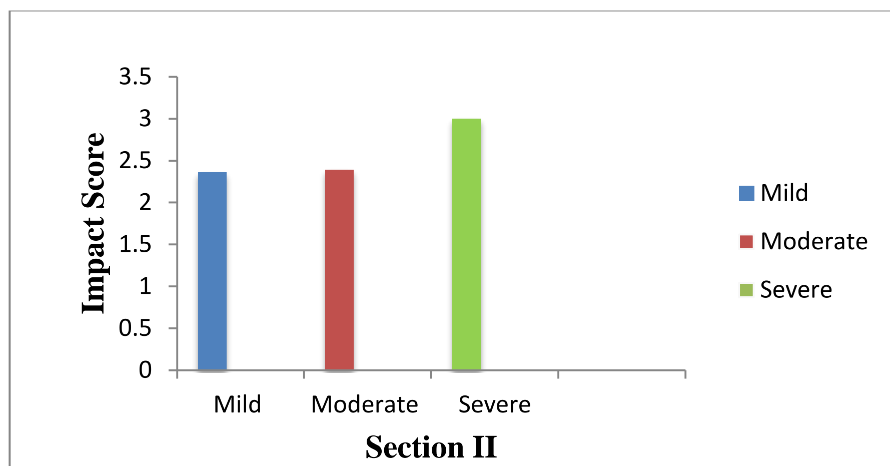

Figure 2: Mean scores of Section II on adapted OASES-T

Also, majority of the participants with milder degree of stuttering had moderate impact (2.36) on the adapted OASES-T whereas; participants with moderate and severe degrees of stuttering severity had the moderate (2.39) and moderate-severe (3.00) impact

respectively on adapted OASES-T. There was a significant difference found. Chi-square test of association shows that there is significant association between Reactions to stuttering and stuttering severity. [$\chi2$ (6) =12.7, $p< 0.05$]. Table 6 represents the results of chi-square test.

Table 6

Results of Chi-square test for Section II

Test	Chi-Value	p-*value*
Pearson Chi-square	12.700	0.048*

*Note. * = p≤ 0.05*

Here, it could be because the adolescents with severe degree of stuttering would have had more negative experiences in different speaking situations which would have lead to the development of avoidance and coping behaviors which resulted in higher scores on the subsections of this particular section. Johnson in 1950's, had put forth the view according to which, stuttering results due to acquired learning characteristics which further leads to an anticipation in the individual in special circumstances. Yaruss and Quesal (2004 & 2006) proposed a view for assessing and treating stuttering based on the International Classification of Functioning, Disability and Health and designed a framework wherein they stated that these individuals with stuttering may experience limitations due to certain environmental factors which can affect the speaker's reaction to stuttering and also to his/her environment. Also, they stated that the listener's reaction will influence the speaker's reaction about their stuttering. Figure 3 represents the mean score of Section II (OASES) across severity of stuttering where x-axis is stuttering severity and y-axis the impact score.

In Section III: *Communication in Daily Situations;* the adolescents with severe degree of stuttering had higher mean scores than that of mild and moderate.

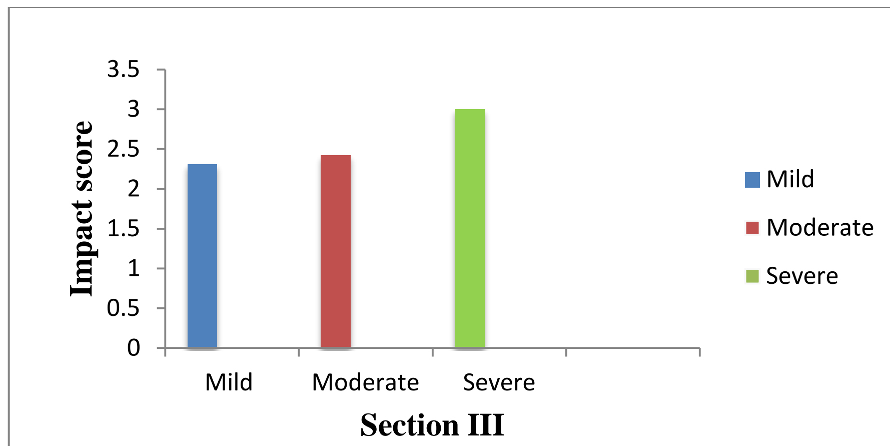

Figure 3: Mean scores of Section III on adapted OASES-T

Also, majority of the participants with milder degree of stuttering had mild-moderate (2.31) impact whereas, participants with moderate and severe degrees of stuttering had moderate (2.42) and moderate-severe (3.00) impact in Section III of the adapted OASES-T respectively. The statistical analyses showed no significant difference between the mean scores though; there was a difference between the mean scores of these adolescents with varying degrees of stuttering severity could be attributed to their confidence about their speaking abilities with different individuals and in different social contexts. Chi-square test of association shows that there is no significant association between Communication in Daily living and stuttering severity [$\chi 2$ (6) =10.78, p> 0.05]. Table 6 represents the results of chi-square test.

Table 6

Results of Chi-square test for Section III

	Chi-Value	***p*-value**
Pearson Chi-square	10.788	0.095

Rakshitha and Sangeetha (2014) studied the confidence level in adolescents with stuttering (AWS) and adolescents with no stuttering (AWNS) about their speaking abilities

using the adapted Self-efficacy scale for adolescents (SEA-scale) a self-rated questionnaire in which the findings suggested that there was a significant difference in SEA-scale scores in all the subscales between AWS and AWNS which could be due to the fact that AWS exhibit negative attitude towards the communication which were as a result of the experience of difficulties faced by them in speaking situations. Also, across three degrees of severity i.e., mild, moderate and severe they found that as the degree of severity of stuttering increased, the confidence level decreased. So, it could be attributed to the negative experiences in different situations and social contexts.

Section IV: *Quality of Life;* the adolescents with severe degree of stuttering had higher mean scores than that of mild and moderate categories. Figure 4 represents the mean score of Section IV (OASES) across severity of stuttering where x-axis is stuttering severity and y-axis the impact score.

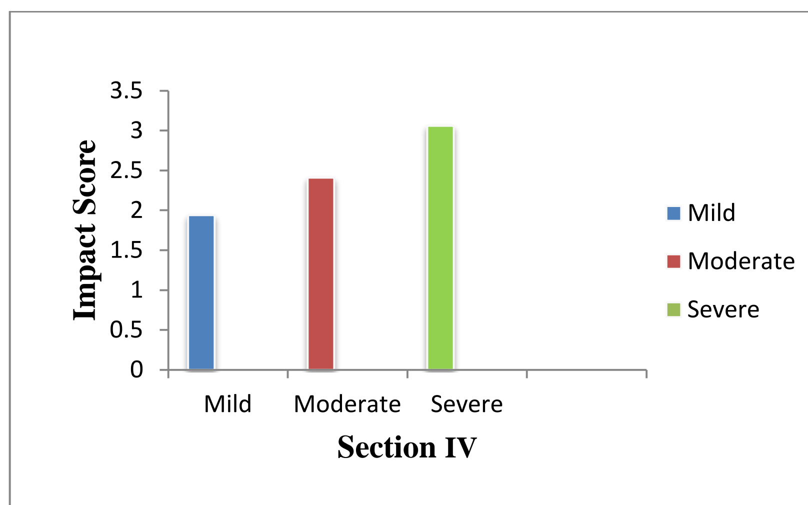

Figure 4: Mean scores of Section IV on adapted OASES-T

Majority of the participants with milder degree had mild-moderate impact whereas, participants with moderate and severe degrees of stuttering severity had moderate (2.41) and moderate-severe (3.06) impact in Section III of the adapted OASES-T respectively. There was a significant difference found. Chi-square test of association shows a significant

association between Quality of life and stuttering severity [$\chi 2$ (6) =10.78, p> 0.05]. Table 7 represents the results of chi-square test.

Table 7

Results of Chi-square test for Section IV

	Chi-value	***p*-value**
Pearson Chi-square	15.7800	0.045*

*Note. * = p≤ 0.05*

Shon, Chun, Mendes, Yaruss & Quesal (2010) studied the impact of stuttering on Quality of life of children and adolescents using OASES and Fluency Profile Protocol in which they found that there was positive correlation between stuttering severity and the impact of stuttering on quality of life. Also, that these age groups do experience moderate negative impact as measured by the OASES-C.

5) Assessment of the overall impact of stuttering across degrees of stuttering severity

The overall impact of stuttering was calculated by summing up scores of all the four sections for each participant across degrees of stuttering severity represented in table 8.

Table 8

Overall Impact score of adapted OASES-T across degrees of stuttering severity

	Stuttering Severity	**Mean**	**SD**
Overall Impact	Mild	2.34	0.57
	Moderate	2.53	0.42
	Severe	3.04	0.48
	Total	2.64	0.56

The findings suggest that the increase in the degree of severity of stuttering, increased the mean value across degrees of severity. One-way ANOVA was used to see the

overall impact of stuttering and there was a significant difference found. Table 9 represents the results of One-way ANOVA

Table 9

Results of One-way ANOVA across degrees of stuttering severity

	F value	***p*-value**
Sttg severity	5.31	0.011*

Note. * = $p \leq 0.05$

As a whole group the adolescents who stutter had moderate impact which suggests that even though, there are equal number of participants under mild, moderate and severe category, >50% of the adolescents who stutter showed moderate impact of stuttering.

Considering the adolescents who stutter having mild degree of stuttering severity had a moderate impact rating (2.34) which implies that, the majority of the adolescents who stutter with milder stuttering severity have greater impact on their life due to the presence of stuttering. Similarly, the adolescents who stutter having moderate degree of stuttering severity also had moderate impact rating (2.53) on their life due to the presence of stuttering as they might find the communicative situations to be moderately impacting their life whereas, the adolescents who stutter having severe degree of stuttering severity had a moderate-severe impact rating (3.04) could be because of the learnt coping behaviors that they had learnt, to compensate in speaking situations to deal effectively in day to day life.

On similar lines, the studies done in the Western context by Franken and Stolk (2009), they concluded that moderate to severe degree of stuttering had an adverse impact on overall quality of life in individuals with stuttering. Also, Blumgart, Tran, and Criag (2012), in their study found that individuals with more severe stuttering had

higher negative scores for the Section I, III and the overall OASES score. Also, an Indian study by Aparajita etal. (2013) showed that on Section I of OASES, majority of the participants had an impact rating of moderate degree and under Section II, Section III and Section IV majority of the participants had moderate impact also, it was found that majority of these individuals had moderate impact for total impact rating. The findings of the current study suggested that as a whole group the adolescents who stutter had moderate impact rating which means that 50% of the adolescents who stutter showed moderate impact of stuttering. Also, across varying degrees of stuttering severity, adolescents who stuttered, having a milder and moderate degree of stuttering severity had a moderate impact rating which means 50% of the adolescents who stutter showed moderate impact of stuttering whereas, adolescents with severe degree of stuttering severity had a moderate-severe impact rating which means >50% of the adolescents who stutter showed moderate-severe impact of stuttering.

The differences in the perception of their stuttering could be different across varying degrees of stuttering severity could be because of their experience of negative feelings in different situations and different context.

CHAPTER V

SUMMARY AND CONCLUSIONS

Stuttering is a speech disorder whose characteristics have been studied over decades. Stuttering manifestation consists of overt and covert features. As per our knowledge, studies on covert features of stuttering and their treatment outcomes are limited whereas, various tools have been used to assess and treat overt or observable behaviours of stuttering. The covert behaviours are also to be taken into consideration while treating the disorder to provide a holistic treatment approach.

Overall Assessment of Speaker's Experience on Stuttering-Teenagers was used which was originally developed byYaruss and Quesal (2006) which is a self-rating questionnaire. OASES for adolescents is divided into 4 sections consisting of 80 questions in total wherein, Section I is General Information which contains statements i.e., 15 questions related to participants' awareness of his own speech naturalness and fluency, their knowledge about stuttering in general etc. Section II- Reactions to stuttering has 25 questions covering the affective, behavioral and cognitive reactions of participants towards their stuttering. Section III- Communication in daily situations consists of 20 questions which explore the difficulty faced by persons with stuttering in different situations. Section IV-Quality of Life contains questions focusing on interference which stuttering has with participants' ability to communicate satisfactorily in society, ability to perform job adequately, spiritual well being and control on his/her own life. It helps the individuals with stuttering to know how much is it interfering with their communicative ability in different situations, with different individuals and how much is it hindering their opportunities to participate in their life events.

OASES-T is a comprehensive tool that helps these individuals in knowing their own perspective about their speaking ability, feelings and attitudes across different life events like school/colleges, social gatherings and about their future life such as their ability to go for

higher studies, to go married, and to secure a job and have a settled successful life using an objective measure.

The current study investigated the test-retest reliability of the questionnaire OASES-T in which a good reliability on all the 4 sections and the overall impact score on the OASES-T was present. The OASES-T was adapted to Indian context for adolescents who stutter with varying degrees of stuttering in the age range of 13-17 years. 30 adolescents who were diagnosed as stuttering using Stuttering Severity Index (SSI-3; Riley, 1994) were administered LEAP-Q questionnaire to check for English proficiency and then, the adapted OASES-T questionnaire was given to adolescents who stutter and the scores on each of the sections were obtained.

The findings suggested that as a whole group the adolescents who stutter had moderate impact rating which means that >50% of the adolescents who stutter showed moderate impact of stuttering. Also, across varying degrees of stuttering severity, adolescents who stuttered, having a milder and moderate degree of stuttering severity had a moderate impact rating whereas, adolescents with severe degree of stuttering severity had a moderate-severe impact rating. The differences in the perception of their stuttering could be different across varying degrees of stuttering severity could be because of their experience of negative feelings in different situations and different context. Also, it is dependent on how the individual is able to cope up in his speaking and living environment.

To summarize, OASES-T helps in identifying and treating the covert behaviours in these individuals with stuttering which further would help in selecting a suitable and effective treatment strategy.

Implications of the study:

The study using this questionnaire will help the individual with stuttering become more aware of their problem, aware of the treatment options available and also helps them to understand in sensitizing and understanding their problems better.

It also helps them in objectively documenting their own progress post therapy and works for the betterment in their overall communicative abilities and help themselves in changing their negative attitudes for better quality of living and to overcome their problem and create a positive environment and improve their quality of life.

Limitations of the study

The questionnaire is lengthy and time-consuming and hence the patient may lose interest after sometime and the reliability of the answers obtained would be questionable.

Future Directions

a. The questionnaire can be standardized in various Indian languages.
b. The questionnaire could be administered on a larger population and can be compared across age and gender

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Appendix-I

Adapted OASES-T to Indian context

Sections	Adapted questions
Section I	A3. How consistently are you able to maintain fluency **daily**? A4**.** How often do you use techniques or strategies you **learnt** in speech therapy? (If you have not had speech therapy before, check “Not applicable”) C12. Speech therapy (if you have not had speech therapy before, check “Not applicable”) C13. **Yourself** being a teenager who stutters C14.**Yourself** being called a person who stutters by other people C15. **Any support or self-help groups provided which support/assist teenagers who stutter** (groups for people to get together to talk about stuttering)
Section II	B31.Let other people **talk on behalf of you** C37.People should do everything they can do to **keep themselves away from stuttering/ avoid stuttering”**
Section III	A41.Talk with **elders** (as compared to others your age) A48. Talk to your teachers or **seniors** B50.Talk in situations outside of class (e.g. free time, in the**canteen**, or at assemblies) B55. Order food (e.g. in a restaurant or **shop**)
Section IV	B65.Your ability **to succeed in studies at school/college** B66.The no. of friends you **make** B69. **Your socialization with people at social events** C70. Your ability to go **for higher studies** C72. **Your ability to get married** D75.At school or **college**