

A Study to Assess Awareness and Attitudes of Teachers towards Primary School Children with Stuttering in Dakshina Kannada District, India

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ABSTRACT

Introduction: Stuttering, a fluency disorder causes a negative impact on an individual's educational, occupational, and social experiences. Based on the review of the previous literatures it was found that the school population exhibited 5% lifetime incidence and 1% stuttering prevalence.

Aim: To assess the awareness and attitude of teachers towards primary school children with stuttering.

Materials and Methods: This cross-sectional study was conducted in primary schools in Dakshina Kannada, Mangalore, Karnataka, India, using Convenient sampling. A total of 70 teachers who are currently teaching primary school children were selected. A questionnaire was developed which had three sections. For the purpose of validation, the developed questionnaire was given to seven experienced speech language pathologists. Later, these speech language pathologists were asked to rate the relevance of each section and questions on a 5-point rating scale. Based on the average ratings, content

validity index was calculated. Later each of the participants was given a copy of the questionnaire and was asked to rate it based on the response format provided. On the basis of obtained scores, internal consistency and test-retest reliability was estimated by using the statistical test Cronbach's alpha and analysis was conducted by using SPSS version 20.0.

Results: Questions regarding the teachers' awareness towards stuttering received an average score of 63.16%. For teachers' attitude, a score of 55.7% and a score of 48.5% for the teacher's perception regarding the students' interaction with the children who stutter were obtained.

Conclusion: The present study indicates that teachers are aware about the development of speech and language patterns, the common errors that can occur during the developmental period which in turn helps them to differentiate stuttering from normal non-fluency. Therefore, understanding teacher's attitudes resolve them in mounting special consideration and making appropriate referral for intervention of the children.

Keywords: Fluency disorder, Normal non-fluency, Questionnaire

INTRODUCTION

Fluency is the effortless flow of speech and its dimensions include continuity, rate, rhythm and effort [1]. The way in which children learn to talk may vary where, some of them achieve their milestones of speech and language with relatively less disfluencies. In children, normal non-fluency of speech occurs between the ages of two and seven, with a sharp incidence rate between two and four years of age [2]. Initially in young children, the non-fluent speech is periodic in nature, later it becomes more cyclic, occurring without any exact origin and pattern. Different features that differentiate normal non-fluency from stuttering include the amount of dysfluency, type of dysfluency, the number of units of repetition as well interjections, in relation to the age of the child. According to Guitar B, the normal non-fluency should include less than 10 disfluencies which are repetitions (easy onset) predominantly whole word repetitions, interjections and revisions [2]. During the developmental period of speech and language we can see errors in typically developing children and the commonly observed errors in normally-speaking two-year-old children consisted of revisions, interjections and single-syllable repetitions [3]. Ratner NB commented that if parents make the child aware of their disfluencies, then normal disfluency may lead to stuttering [4]. Guitar B defined stuttering as a fluency disorder characterised by stoppage of speech at an abnormally high rate and duration, and the stoppage can include dysfluencies such as syllable repetitions, word repetition or sound repetition,

prolongations, pauses as well as blockage of air flow [2]. Literature reveals 5% lifetime incidence and 1% prevalence of stuttering in the school population [5]. Reports revealed that stuttering to be present approximately 0.4% within the urban areas in India [6]. Stuttering is present in about 1% of school going children with male to female ratio of 2.2:1 to 5.3:1 [7]. Craig A et al., reported greater prevalence of stuttering for children (1.4%) and lesser for adolescents (0.53%) [8]. Developmental stuttering, the most common fluency disorder is seen in preschool years which has an onset between 24-42 months of age. These children follow a normal developmental pattern till the occurrence of stuttering [3]. The child's communicative ability as well as the experience of stuttering incidents depends upon the people who surround the child's environment [9,10]. The incidence and prevalence rates of stuttering revealed that, teachers tend to encounter students who stutter in classroom. Studies have shown that teachers play a significant role in the educational process and their perception has a significant impact on the progress of children with stuttering [11]. However, their negative attitude towards stuttering makes an adverse effect in these children. Meanwhile, limited literature is available regarding teacher's beliefs and attitude towards stuttering in Indian context [6]. Henceforth, the present study has been undertaken to assess the awareness and attitude of teachers, by developing a questionnaire and administering the same.

MATERIALS AND METHODS

The present cross-sectional study was conducted in five primary schools in Dakshina Kannada, Mangalore from December 2016 to November 2017 using Convenient sampling. Prior to the conduct of this study, ethical agreement was obtained from Recognised Ethical Committee Board of Kasturba Medical College (Manipal Academy of Higher Education) Mangalore, Karnataka, India, (Reg. No. ECR/541/Inst/KA/2014). A formal consent was obtained from all the participants before including them in the study.

A questionnaire with 20 questions that emphasised on teachers' awareness about stuttering, teachers' attitudes as well as beliefs towards children with stuttering and teachers' perceptions regarding the students' interaction with children who stutter was developed.

Participants

A total of 70 teachers who are currently teaching primary school children with proficiency in English and having a teaching experience of 5 to 10 years in Dakshina Kannada District of Mangalore were selected as the participants for the present study. The teachers who had experience less than five to 10 years and also who are less proficient in English were excluded from this study.

The present study was carried out in two phases:

Phase I

The phase I of this present research was allotted to the development of questionnaire through three steps. The step 1 involved collection of the data that has to be incorporated in the questionnaire based on the checklist and questionnaires presently available in the literature. In step two, questionnaire was developed, and the developed questionnaire consisting of 20 questions served to collect data from primary school teachers concerning across three sections which includes, teacher's awareness about stuttering, teacher's attitudes and beliefs towards children with stuttering and teacher's perceptions regarding the students' interaction with children who stutter.

Under each section, there were set of questions. Section 1 of the questionnaire included five questions dealing with teacher's awareness regarding the aetiologic factors as well as the identification and intervention of stuttering. Section 2 included thirteen questions that assess the attitude and beliefs of teachers regarding stuttering and the overlying speech difficulties faced by children due to stuttering as well as teacher's concern and consideration towards children in classroom setup. Section 3 included two questions that assess the teacher's perceptions regarding the students' interaction with the children who stutter. Response scores were given for each question so that greater score (5) showed strongly disagree followed by disagree (4) and neutral (3) and lesser score indicated agree and strongly agree (2 and 1 respectively) for the statements. In the third step, Content validation was estimated by obtaining ratings on a 5-point scale, where the greatest score '5' indicated a question to be extremely relevant and a rating of '0' indicated the question to be not relevant. On the basis of obtained ratings from seven speech language pathologists, content validity index was calculated.

Phase II

The phase II involved administering the validated questionnaire on teachers. A total of 70 teachers who are currently teaching primary school children having the experience of 5 to 10 years and proficient in English were selected. Based on the provided response format (1- Strongly agree, 2- Agree, 3- Neutral, 4- Disagree, 5- Strongly disagree), each participant was given a copy and were asked to rate the questionnaire.

STATISTICAL ANALYSIS

On the basis of obtained scores, the internal consistency and test-retest reliability of the questionnaire was assessed with the help of

statistical test Cronbach's alpha. In the present study, α was found to be 0.813 ($\alpha=0.813$), indicating that overall internal consistency of the questionnaire was excellent. Total of 1400 data index (20 questions \times 70 participants) was collected from the correctly filled questionnaire and statistical analysis was carried out by using SPSS version 20.0.

RESULTS

The primary school teachers were required to rate the developed questionnaire which consisted of 20 statements on a 5-point rating scale across three sections. Firstly, the questionnaire which was developed was given to seven speech language pathologists. Later on a 5-point rating scale they rated the relevance of questions on each section. On the scale, the score of 4 or 5 indicated a higher relevance of the questionnaire whereas the rating of 3, 2, or 1 indicated a lower relevance or no relevance. Based on the average ratings obtained from the seven speech language pathologists content validity index was calculated.

On the basis of the following formula the content validity index was calculated.

$$\text{Content validity index} = \frac{\text{Number of speech language pathologists who rated the article as 4 or 5}}{\text{Total number of speech language pathologists}}$$

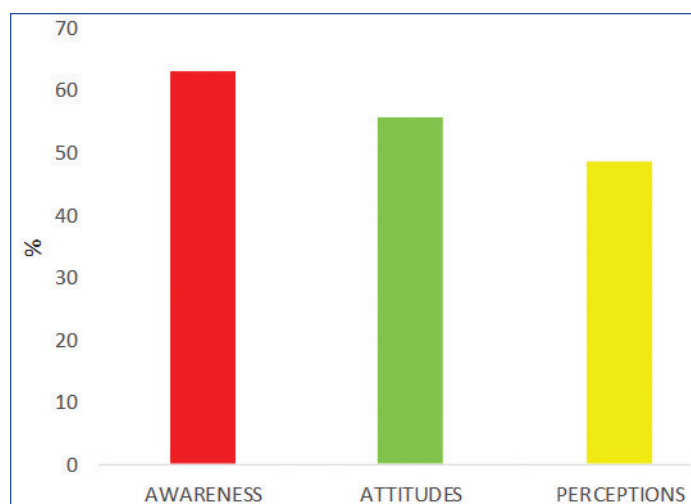
Content validity index of one was obtained for questions 1 to 5, then 8 to 11 followed by 13 to 19. For questions 6, 7, 12 and 20 obtained a content validity index of 0.857. Content validity of the developed questionnaire was found to be 0.8 indicating a high significance of the questionnaire. The validated questionnaire was then given to 70 primary school teachers to rate their awareness and attitudes towards children with stuttering across three sections. The participants were asked to rate the questions with appropriate rating system provided. These obtained scores were converted into the standardised percentage system. [Table/Fig-1] depicts the percentage of obtained scores.

Descriptive statistics was done to find out the awareness and attitude of teachers towards primary school children with stuttering. Maximum of teachers (37 out of 70) believe that stuttering could be a genetic disorder. About 67.1% score obtained for Q2 (I feel stuttering needs to be identified at an early age) revealed that, teachers agree there was a need to identify stuttering at an early age. Q3 (I believe that stuttering requires treatment) received 72.9% score suggesting that 54 out of 70 teachers were aware that stuttering requires treatment. A score of 68.6% was obtained for Q4 (I am aware that Speech pathologist is the right person to whom I can refer a student who has stuttering) indicating that teachers having a positive belief that speech therapist was the right person to whom they can refer student who has stuttering. About 68.6% was obtained for Q5 (I am aware that a teacher plays an important role in student with stuttering) suggesting, maximum number of teachers (50/70) are strongly rated for agree, dealt with the notion that teachers play an important role in students with stuttering. Percentage score between 50% to 80% was obtained for Q6 and Q7 (I feel a student's stuttered speech draws my attention as well as that of other students, in the class and I get concerned when a student stutters during classroom activities) indicated that student's stuttered speech draws teachers attention and teachers get concerned when a student stutters during classroom activity. For Q8 and Q9, (I feel it is necessary for a teacher to make the student aware of his/her speech problem and when students stutter, I often correct) percentage score was found between 60-70% for the rating agree, suggesting that teachers had a negative perception to make the student aware about his problem as well as they often correct the speech problem during stuttering. Score of 60% for Q11 (I get concerned that stuttering

No	Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
1	I think stuttering could be genetic disorder	10.0	38.6	35.7	15.7	-
2	I feel stuttering needs to be identified at an early age	28.6	67.1	4.3	-	-
3	I believe that stuttering requires treatment	24.3	72.9	2.9	-	-
4	I am aware that Speech pathologist is the right person to whom I can refer a student who has stuttering	24.3	68.6	7.1	-	-
5	I am aware that a teacher plays an important role in student with stuttering	27.1	68.6	4.3	-	-
6	I feel a student's stuttered speech draws my attention as well as that of other students, in the class	8.6	72.9	15.7	2.9	-
7	I get concerned when a student stutters during classroom activities	30.0	57.1	12.9	-	-
8	I feel it is necessary for a teacher to make the student aware of his/her speech problem	18.6	65.7	12.9	2.9	-
9	When students stutter, I often correct.	18.6	71.4	10.0	-	-
10	I get concerned that stuttering can affect a student's academic performance	14.3	60.0	18.6	5.7	1.4
11	I believe children become more fluent when teachers insist on relaxation in the child's behaviour	1.4	61.4	27.1	10.0	-
12	I believe some considerations in academics should be given to students with stuttering	2.9	45.7	45.7	5.7	-
13	I believe that a student who stutters can be described as being shy and quiet.	7.1	52.9	35.7	4.3	-
14	I suspect stuttering severity increases when he/she is teased by his/her peer group	2.9	45.7	45.7	5.7	-
15	I presume there will be a variation in stuttering with respect to the student's interest in a particular subject	2.9	2.9	-	72.9	21.4
16	I feel that a student's stuttering can make him/her isolated from others in school	-	11.4	15.7	72.9	-
17	I believe a student who stutters will probably make a better adjustment to their difficulty if they are encouraged to discuss openly their feelings about stuttering.	8.6	28.6	38.6	24.3	-
18	I feel the student who has stuttering should be ignored in the class	1.4	35.7	40.0	22.9	-
19	I believe that stuttering cannot be cured	-	47.1	38.6	14.3	-
20	I notice other students giving unnecessary attention towards children who stutter	1.4	25.7	22.9	50.0	-

[Table/Fig-1]: The details of percentage distribution obtained for the rating of each question by teachers in the questionnaire.

can affect a student's academic performance) revealed teachers have a strong belief that stuttering can affect a student's academic performance. Q12 (I believe some considerations in academics should be given to students with stuttering) received percentage score of 45.7% for both the rating agree and neutral indicating that teachers should give some considerations in academics for student who stutter. Score of 52.9% for Q13 (I believe children become more fluent when teachers insist on relaxation in the child's behaviour) strongly indicating that teachers were having a strong belief to make the child relax and thus it lead to more fluent speech.



[Table/Fig-2]: The percentage distributions obtained across three sections.

Maximum of teachers (45.7% and 47.1%) believed that students who stutter can be described as being shy as well as quiet, and stuttering severity increases in students when they are teased by their peers respectively. About 72.9% teachers are found to believe that stuttering cannot be cured. Percentage score of 50% indicated that teachers believe stuttering make them isolated from others in school whereas teachers are having only neutral opinion about the statement; "where other students giving unnecessary attention towards students who stutter". A 52.9% score for the rating agrees showed that teachers strongly believe that a student who stutters can adjust with their difficulty if they are encouraged to openly discuss their feelings about stuttering.

While considering the data as a whole, first five questions regarding the teachers' awareness towards stuttering received an average percentage score of 63.16% for the rating agree, which can be interpreted that teachers are aware about the fact that stuttering could be a genetic disorder which could be identified early and requires treatment. It also gives information that, they were aware about speech therapists, who are the professionals to be referred for and teachers themselves play a major role in early identification and intervention. Questionnaire responses for the attitude of teachers towards stuttering received an average percentile score of 55.7% for the highest agreement rating, suggesting that teachers have positive attitude toward children with stuttering. Percentile score of 48.5% obtained for the teacher's perception regarding the students' interaction with the children who stutter indicated that teachers had an optimistic attitude towards the fact that children with stuttering should be positively treated by their peer groups. The percentage

distributions obtained across three sections such as teacher's awareness, attitudes and belief towards children with stuttering as well teacher's perceptions regarding the students' interaction with children who stutter are depicted in the [Table/Fig-2].

In the present study, the overall internal consistency of the questionnaire was carried out by using Cronbach's alpha test and α was found to be 0.813 ($\alpha=0.813$), indicating that overall internal consistency of the questionnaire was excellent.

DISCUSSION

Section one (Teacher's awareness regarding the aetiological factors, identification and intervention of stuttering): This section contained questions related to teachers' awareness regarding the aetiological factors, the need for early identification and treatment for children with stuttering. The present study suggests that teachers are aware about the fact that stuttering could be a genetic disorder which could be identified early and requires treatment. Yeakle MK et al., did a study in 521 teachers by using Teachers Perceptions of Stuttering Inventory (TPSI). The purpose of the study was to analyse their attitudes towards stuttering. The result indicated that majority of teachers had wrong notion about the causes which could be the influential factors of stuttering [11]. In another study by Cooper EB et al., found a positive shift in teachers' attitude towards children with stuttering with regard to causality, early intervention, and character judgement [12].

Section two (Teacher's attitudes and beliefs towards children with stuttering): This section included questions to assess the attitude and beliefs of teachers regarding stuttering and the overlying speech difficulties faced by children due to stuttering as well as teachers' concern and consideration towards children in classroom setup and results suggesting that teachers have a positive attitude towards children with stuttering. The present research revealed teachers have a strong belief that speech therapists are the persons to whom they can refer children with stuttering. Klompas M et al., reported the need of SLP's to provide teachers with more information about stuttering [13]. Crichton-Smith I et al., suggested that closer working between SLPs and teachers is necessary to treat the children with stuttering as typically developing children [14]. About 68.6% was obtained for the statement "I am aware that a teacher plays an important role in student with stuttering" suggesting that maximum number of teachers (50/70) have strongly rated for "agree", which dealt with the notion that teachers play an important role in students with stuttering. There are evidences which suggest that teachers play an important role in the development of education in children. Jenkins H conducted a questionnaire study on primary and secondary mainstream school to assess their attitudes towards dysfluency training and found that educational development of a child is primarily dependent on teachers and their unsupported views on stuttering can significantly affect the intervention of children with stuttering in classroom setup [15-17]. Literature shows that teachers' awareness and attitude can affect the child's attitudes which in turn have a significant influence on the peer relationships and self- image of children with stuttering [18]. The findings of the present study showed that the development of education process in children with stuttering is primarily dependent upon teachers and their perceptions and attitudes have a significant influence on the development of children with stuttering.

Percentage score between 50% to 80% was obtained for the statements "I feel a student's stuttered speech draws my attention as well as that of other students, in the class", "I get concerned when a student stutters during classroom activities" which is indicative that student's stuttered speech draws teachers attention and teachers get concerned when a student stutters during classroom activity. For the statement "I feel it is necessary for a teacher to make the student aware of his/her speech problem and when students stutter, I often correct" percentage score was found between 60-

70% for the rating agree, suggesting that teachers have a negative perception to make the student aware about his problem as well and they often correct the speech during stuttering. Cook F et al., reported maximum of teachers (72.4%) believed they should not call attention to stuttering, whereas 27.6% of teachers believed that this should take place, and 51.7% of teachers believed that in order to make the child more fluent in speech it was appropriate for them to repeat words while speaking [19]. The questionnaire analysis from this study revealed that intervention measures taken by teachers were focussed on concern and care for the children. An agreement made between teachers that they would not ignore a child from classroom conversations, as well as they would not draw attention to his/her own speech. Studies found that calling attention regarding stuttering in children might result in bullying which in turn results in lack of self-esteem and confidence.

Score of 60% for the statement "I get concerned that stuttering can affect a student's academic performance" revealed, teachers have a strong belief that stuttering can affect a student's academic performance. The statement "I believe some considerations in academics should be given to students with stuttering" received percentage score of 45.7% for both the rating agree and neutral indicating that teachers have to give some considerations in academics for student who stutter. Score of 52.9% for the statement "I believe children become more fluent when teachers insist on relaxation in the child's behaviour" strongly indicates that teachers have a strong belief to make the child relax and thus leading to more fluent speech. Based on interview reports, Mansson H, reported the importance of teacher's role in supporting children who stutter and they recognised that children with stuttering needs special consideration and support in classroom environment. In addition to managing the children through oral demands and managing other children's behaviour, confidence building by using individual approaches offers the finest learning opportunity for teachers [7].

Section 3 (Teacher's perceptions regarding the students' interaction with children who stutter): Under this section, maximum of teachers (45.7% and 47.1%) believed that students who stutter can be described as being shy as well as quiet, and stuttering severity increases in students when they are teased by their peers respectively. Teachers reported that children with stuttering were supposed as being shy, introvert, anxious and self-conscious [16]. Davis S et al., identified that children with stuttering tend to have low social position among peers and these children were considered to be more vulnerable to harassment in classroom setup [20]. Literatures suggested that teachers' perception towards stuttering may affect how they succeed harassment [21]. Turnbull J suggested the use of approaches to deal with harassment would help children with stuttering to overcome their issues in classroom setup [22]. About 72.9% teachers are found to believe that stuttering cannot be cured. Rustin L et al., identified bullying in school is one of the reasons for some children with stuttering [19]. Percentage score of 50% indicated that teachers believe stuttering makes them isolated from others in school whereas teachers have a neutral opinion about the statement where other students giving unnecessary attention towards students who stutter. About 52.9% score for the rating agree showed that teachers strongly believe that a student who stutters can adjust with their difficulty if they are encouraged to openly discuss their feelings about stuttering.

Future Recommendations

Even though the present study reveals the awareness and attitudes of primary school teachers towards children with stuttering, the total number of teachers from different settings and schools can be increased in future studies.

CONCLUSION

Based upon questionnaire response, the majority of teachers without any variations seem to be aware about stuttering, students' interaction with the children who stutter, the role of teachers towards children with stuttering, as well as the impact that can occur in future. Though there was no variability across the teachers' attitude, they are not aware about the management options to deal with such children.

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