SPASTIC DYSPHONIA—A CASE STUDY

SHYAMALA DHARMARAJ

The following case was seen at the All India Institute of Speech and Hearing and is being presented to suggest and support a point of view about treatment that may be beneficial to some such cases.

Mr 'S' a 53 year old Head Constable, married, with 8 children, reported to the A.I.I.S.H. clinic on 2-3-70 with the complaint that he 'couldn't speak', his 'speech was laboured' and that it was extremely difficult for him to carry on with his routine duties.

The onset of the problem was sudden when he developed a cough seven years ago at the age of 46, he noticed his voice had changed. The severity of the problem has remained unchanged since its onset.

A diagnostic speech and voice evaluation revealed the problem to be one of severe spastic dysphonia. His voice was characterised by a strained, creaking, choked, vocal attack which was jerky and hoarse and was accompanied by extreme tension of the entire phonatory system, upper limbs, and trunk. The pitch range was limited. Loudness level was somewhat reduced, but only to a mild degree. Habitual pitch range was higher than the optimum level The vocal tone could be sustained for only 3 seconds. No tremulous quality was noted in a whisper. The reflex action of phonation was intact. The initial syllable of every word was observed to be high pitched, strained, and creaking, turning into normal at the end of the word. Running speech was plosive in nature, during silence respiration was normal becoming erratic, with double starts, violent jerks, and wasteful breathing while speaking. No deviation in articulation was observed.

Medical and laryngoscopic examinations excluded organic pathology.

Pre-therapy voice was recorded on 9-3-70 (Ref. No. Synchro No. 6. Track No. 1 Rec. No. 2).

Psychological evaluations revealed Mr S to be intellectually normal. On the whole he was reported to present a satisfactory personality with no neurotic problems. On the M.M.P.I. his lie score rated very high and therefore no conclusions could be drawn from this test.

Audiological examination revealed normal hearing. S.R.T. in both the ears was established at 15 dB.

Since no organic pathology was detected in this case and as most authorities agree that spastic dysphonia is a functional disorder, behaviour therapy was tried in view of its earlier success (Shyamala Dharmaraj 1970) with spastic dysphonia and other functional problems.

Miss Shamala Dharmaraj is lecturer, Department of Speech Pathology at the A.I.I.S.H.

A combination of different techniques of behaviour therapy as suggested elsewhere, (Shyamala Dharmaraj 1970) was applied. The goals to be attained were:

1. To locate a normal voice.
2. To achieve discrimination between the desired and the undesired voice through perceptual training.
3. To increase the duration and frequency of occurrence of the desired voice by *(a)* verbal reinforcement *(b)* and penalising the undesired voice by stopping phonation and/or communication.
4. To stabilise the desired voice by verbal reinforcement in the following graded stages of difficulty:
   (a) Practice first on low vowels gradually proceeding to higher vowels,
   (b) Combining low vowels with voiceless consonants first, and then moving on to voiced consonants. The same procedure was followed with high vowels.
   (c) The next stage was using these consonant combinations in monosyllabic words and then in bi-syllabic words.
   (d) Soon work was started on two word phrases and simple sentences.
   (e) Reading of short paragraphs, and
   (/) Carry over of learned voice to conversational situations.

The two initial sessions were devoted to the education of the case with regard to the mechanism of phonation, tension and the probable factors responsible for his disorder. The future course of therapy was also mapped out for him. As the case asked for more information regarding 'tension', Jacobson's (1945) techniques on relaxation were explained to him and an actual demonstration was given by the therapist, which the patient was later instructed to try out. This did bring about the desired result.

The third session was devoted to locating the desired voice. As the case produced a normal voice during the latter half of every word, the therapist encouraged him to prolong this voice thus setting a model for him to follow. Whenever the case produced the desired voice verbal reinforcements like 'that was good', 'keep that up', 'very good', 'excellent' were immediately given. When the undesired voice was produced the therapist imitated the voice, pointed out the error and indicated her disapproval. This, with a regular programme of ear training, using tape recordings and self hearing techniques facilitated discrimination between the desired and undesired voice.

As with the other case of spastic dysphonia reported earlier (Shyamala Dharmaraj 1970) it was observed here also, that so long as the voice remained normal, erratic breathing, tension in the phonatory system, upper limbs and trunk ceased to exist. The patient's attention was drawn to these changes and verbal reinforcements were given. No further exercise for relaxation was deemed necessary and it was intended to reinstate this condition by verbal reinforcement

and penalise verbally the presence of exaggerated muscle tension. Ability to sustain the desired voice was taken up as the next goal of the therapeutic programme. Here practice was done on low and high vowels. Low vowels could be produced with greater ease and clarity, as the high vowels required more tension of the speech musculature, when compared to the lower ones. Having now mastered the vowels the next step was the production of consonants using the desired voice. Here again Mr S. was instructed to follow the model set by the therapist. Work was done first on low vowels, followed by voiceless consonants and later by voiced consonants. The case was then encouraged to go through all the steps so far achieved in therapy using the desired voice, but this time without any assistance from the therapist. The therapist all along these stages had verbally reinforced the desired voice and penalised the undesired one. It was observed that the voiced consonants were more difficult compared to the unvoiced consonants, and that the prolongation of a vowel preceding the consonant helped the case in the production of the voiced consonants. Since the case responded well to the above mentioned techniques, practice proceeded on mono-syllabic and bi-syllabic words, simple phrases and sentences and then on conversational speech using the same procedure. It was observed all through these stages that prolongation of the syllables in the words aided the production of the desired voice. He was therefore instructed to prolong the syllables. A daily note as per the number of times the undesired voice occurred during the 30 minutes of reading and 10 minutes of conversation was maintained by the therapist. Verbal reinforcements and penalty were administered as per the therapy plan. Syllable prolongation technique was gradually dispensed with as therapy progressed and the ability to use the desired voice improved. By now the case had attended 20 sessions and he was able to read and speak without the undesired voice occurring even once. Therapy continued and the case maintained the desired voice for 5 days continuously. On the 6th day his voice had suddenly deteriorated and the case was very perturbed about it. Attempts were made to reduce this phase of the problem. Mr S. was reassured and made to understand that such fluctuations in his voice would occur during the initial stages of therapy and would decrease in their frequency of occurrence with practice. Another therapy session followed which enabled the case to use his desired voice about 95 per cent to 100 per cent of the time with greater confidence. During the courses of therapy Mr S. was given opportunities to speak under different conditions, to ensure that the newly learned voice (desired voice) could be carried over to other situations. It was felt that when the case was under stress or tension, or when he had to face a large audience, or read fast, there was a tendency for the newly learned (desired) voice, to revert to the old pattern; the case was aware of this, and every effort was made by him to overcome these problems. After 5 more sessions it was noted that Mr S. had made considerable progress and that he was able to use the desired voice 95-100 per cent of the time in clinical situations, as well as to carry over the voice into situations outside of the clinic.

A continuance of voice therapy to enable him to stabilise the new voice was discussed with Mr S. prior to his discharge. As he had no more leave to his credit he had to be discharged on 8-1-70 with instructions to spend at least half an hour daily, strictly adhering to the techniques followed so far in therapy. In case his voice showed any deviation from the desired voice he was instructed not to continue reading and/or speaking, but to start all over again prolonging the syllables if need be, until he was able to say the word using the desired voice. He was also instructed to keep us informed of his progress once in a fortnight and visit the Institute every 3 months for a follow up.

Mr S. had altogether attended about 45 therapy sessions; he had shown considerable progress at the time of discharge, his voice being almost normal. There were no traces of the strained, jerking, chocked quality. The pitch range had improved considerably, loudness was normal and tension of the phonatory system, upper limbs and trunk had disappeared. Since discharge from the Institute Mr S. had been in contact with the therapist. He has made an excellent vocational adjustment. The last follow up letter from Mr S. says considerable improvement in his voice is noted in spite of the fact he was not able to follow the instructions given to him at the time of his discharge. Letters from him indicate a remaining difficulty in conversing over the phone using the desired voice. This latter problem will be taken care of when Mr S visits the clinic during his summer vacation.

(Post therapy voice was recorded on 18-7-70. Tape No. 6 Track No. 2.)

REFERENCES

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