

Tinnitus Retraining Therapy

- a 15 year perspective

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Summary

Thirty-seven patients reviewed 15 years after the application of Tinnitus Retraining Therapy showed a marked and sustained improvement in both habituation of perception and reaction. The 40% criteria for success was unchanged during the post treatment period.

Introduction

Tinnitus Retraining Therapy TRT is an habituation therapy for tinnitus and decreased sound tolerance based on the Jastreboff Neurophysiological model¹. The technique has been described in detail² and results from around the world testify to its effectiveness³⁻⁵. There are a few reports of long term results up to 5 years^{6,7}. In this short paper we review the status of tinnitus patients 15 years after receiving TRT.

Method

Patients treated at the Tinnitus and Hyperacusis Centre, London between 1990 and 1993 were reviewed in 2005. Patients were treated according to a strict TRT protocol by the two authors jointly. All the principles in the Jastreboff Neurophysiological Model enshrined in the original paper¹ (to which the authors had pre-publication access), were explained to each patient in simple terms. In particular the importance of habituation of reaction was stressed, with directions as to how this could be achieved. However at this early stage in the development of TRT the following points should be noted: Jastreboff categories had not yet been formally developed, patients without hearing loss were fitted with binaural sound generators at, or below the mixing point, no environmental

soundenrichment was used, and the classical diagrams of the model^{2,5} were not yet available for counselling. Those with significant hearing loss were fitted with the

most appropriate binaural amplification.

Patients were contacted by telephone using an independent researcher naive to TRT. Two hundred and forty one contacts were attempted, many on numerous occasions, and questionnaires were finally completed by 37. Missing data was due to a) having moved away (the majority) b) deceased c) untraceable d) declined to help (3).

Results

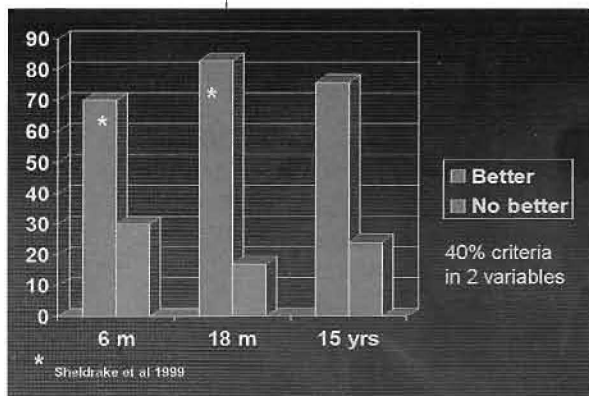
The average age of patients interviewed was 57 years. Fifty one percent were males and 49% females. Retrospective analysis into Jastreboff categories resulted in 51% category 1 (high severity of tinnitus prevalent symptom without hearing loss or hyperacusis) 40% category 2 (high severity of tinnitus with hearing loss) and 9% category 3 (significant hyperacusis with tinnitus).

Analogue scales were used for scoring tinnitus perception (tinnitus present all the time 10, never present 0). Before treatment the average value was 9.6, after 15 years 3.4. Tinnitus reaction was also scored (extremely annoyed 10, not annoyed 0). Before treatment the average value was 9.1, after 15 years 3.1.

After 15 years 11% had no tinnitus, 5% said 'it was their friend' and 32% said it had 'no significance'. Thirteen percent still classified it on occasion, as 'the enemy'. Those still using sound generators (6%) did less well (40% of these were not fully habituated).

We used the same criteria for success as in previous studies⁹ that is, a 40% improvement in two variables (amount of time tinnitus present, and level of tinnitus annoyance). The results from our previous study⁹ are combined with the present study (fig 1), with those not reaching the 40% criteria classed as 'no better'. The 40% improvement criterion has been used to indicate

Fig 1





significant habituation to tinnitus. At 18 months post treatment 82% of patients achieved this score, and at 15 years 76%. As we have stated before, 'no better' does not mean that no benefit was obtained from TRT, only that the 40% criterion was not reached within the timeframe specified. There was no statistical difference between the results at 18 months and 15 years post TRT, or between the different categories of patients.

Discussion

Despite the small sample reviewed at 15 years, the results indicate that habituation is maintained for a prolonged period following TRT, possibly indefinitely. The demographics of those interviewed were no different from the missing data, and although the final number is small, it is likely that the reasons for missing data were independent of tinnitus outcome. All patients declared a benefit from TRT and none had sought further treatment. Six patients with hearing loss were still being seen intermittently for hearing aid provision. The patients still using sound generators probably did so because habituation being less complete, they were relied on for symptom relief by distraction or partial suppression ('partial masking'). As we were fairly new to the TRT protocol when these patients were treated, it is hoped that studies of patients from later years would show better results.

Further, more complete studies are needed, but it would appear that the proper application of TRT results in long term maintenance of habituation of both reaction to, and perception of tinnitus.

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