Introduction

Tinnitus, the perception of sound in the absence of an external stimulus, is a distressing condition affecting all ages. Hyperacusis is the increased sensitivity to sound and a low tolerance for environmental noise. These are commonly associated with adults, however it is increasingly recognized that children and adolescents also experience these debilitating symptoms. Focus on paediatric tinnitus remains limited and there is a critical need to establish specialized clinics tailored to address the unique challenges faced by this population.

The purpose of this study was to:
- investigate the outcomes of a dedicated Paediatric Tinnitus Clinic
- evaluate the efficacy of various interventions
- explore the implications for treatment.

By comprehensively examining the outcomes of this dedicated clinic, we aim to contribute valuable insights into the management of paediatric tinnitus, improve diagnostic protocols and enhance therapeutic approaches to mitigate the impact of tinnitus on the quality of life of affected children and families.

Methods and Results

- Retrospective case-note audit of referrals to the Paediatric Tinnitus clinic over a 30-month period (Jan 2021 – June 2023).
- Cohort = 15 children; Age ranged from 6-16 years old.
- All children had a full medical evaluation prior to acceptance onto the clinic.
- Additionally, age-appropriate questionnaires or visual analogue scales were carried out.
- Each child had a full audiological assessment.
- Those with a significant hearing loss were appropriately amplified

<table>
<thead>
<tr>
<th>Measure</th>
<th>Results</th>
<th>Outcome</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average referral to clinic time</td>
<td>29 weeks</td>
<td>Discharged with counselling</td>
<td>26%</td>
</tr>
<tr>
<td>Middle ear issues</td>
<td>40%</td>
<td>Fitted with Hearing aid</td>
<td>6%</td>
</tr>
<tr>
<td>Hearing loss</td>
<td>40%</td>
<td>Fitted with noise generator</td>
<td>26% (40% reduction in tinnitus score)</td>
</tr>
<tr>
<td>Comorbidities</td>
<td>26%</td>
<td>Further review</td>
<td>13%</td>
</tr>
<tr>
<td>Outcome measure (TFI, THI, VAS)</td>
<td>40% reduction in post-intervention score</td>
<td>Referred on for further investigations</td>
<td>26%</td>
</tr>
</tbody>
</table>

Discussion

- Approximately a quarter of those seen were discharged with targeted information sharing and counselling.
- Those referred for further investigations uncovered comorbidities including Ménière’s syndrome, vascular loop, NF1 and ME.
- Average referral-to-clinic time was calculated from the first report of tinnitus to the date seen on the tinnitus clinic. There were 2 outliers of >100 weeks wait from referral to date seen - this was due prolonged concurrent treatment timeline of other otological comorbidities.
- Limitations - outcome measures were used only 46% of the time. When used, there was a 40% reduction of reported tinnitus in the post-treatment stage.
- The fitting of a noise generator also resulted in an average of 40% reduction in reported tinnitus.
- Those needing further review had multiple concurrent socio-behavioural issues such as ADHD, requiring further counselling and support.

Conclusions

- Our findings demonstrate the range of outcomes of a specialized paediatric tinnitus clinic in addressing the unique challenges associated with tinnitus in children.
- Tinnitus in children is often overlooked, leading to delayed diagnosis and inadequate management. By offering a holistic approach, our clinic aimed to provide comprehensive care that considers the physical, emotional, educational and social aspects of tinnitus in children.
- The timely initiation of treatments - including tinnitus retraining therapy, sound therapy, stress reduction, sleep hygiene, educational support and fitting of noise generators - proved crucial in improving outcomes and enhancing the quality of life for our young patients.
- Our results underscore the importance of dedicated Paediatric Tinnitus Clinics in recognizing and managing this condition early, promoting awareness among healthcare professionals, and ensuring appropriate interventions for affected children.

References